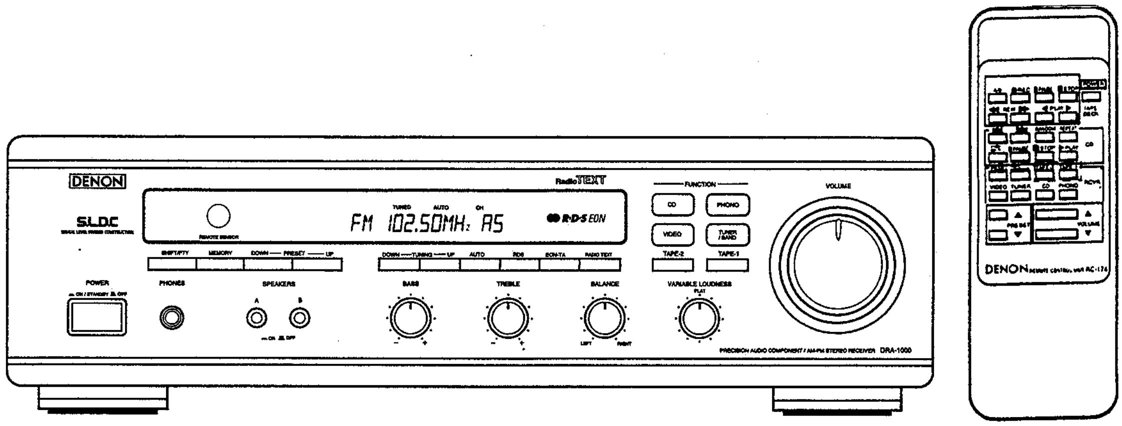
DENON

Hi-Fi AM-FM Stereo Receiver

SERVICE MANUAL

MODEL DRA-1000

AM-FM STEREO RECEIVER



This service manual is composed of only pages whose contents are different from those for the model DRA-585RD. For servicing, refer to the previously issued service manual of DRA-585RD (for Europe and U.K. models) at the same time.

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● Some illustrations using in this service manual are slightly different from the actual set.

NIPPON COLUMBIA CO., LTD.

SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

SPECIFICATIONS

AMPLIFIER SECTION

Continuous Power

Output (DIN):	90 W +90 W (4 Ω/ohms, 1 kHz)		
Power Bandwidth (IHF):	10 Hz ~ 40 kHz (T.H.D. 0.15 % both channels driven into 8 Ω/ohms)		
Total Harmonic Distortion:	0.03 % (-3 dB at rated output, 8 Ω/ohms)		
Frequency Response:	PHONO RIAA Standard Curve (Recording Out-put)		
		MM	20 Hz ~ 20 kHz ±0.5 dB
	CD, VIDEO, TAPE 1, TAPE 2		20 Hz ~ 50 kHz ±1.5 dB (at 1 W)
Input Sensitivity and Impedance:	PHONO	MM	2.5 mV 47 kΩ/kohms
	CD, VIDEO, TAPE 1, TAPE 2		150 mV 25 kΩ/kohms
Maximum Input Level (at 1 kHz):	PHONO	MM	120 mV
Signal to Noise Ratio (IHF-A):	PHONO	MM	78 dB (at 5.0 mV input)
	CD, VIDEO, TAPE 1, TAPE 2		98 dB
Tone Controls:	BASS		±10 dB at 100 Hz
	TREBLE		±10 dB at 10 kHz
Loudness Control Effect:	Variable Loudness at maximum position 50 Hz/10 kHz, +10 dB/+5 dB		

TUNER SECTION

[FM] (note: μV at 75 Ω/ohms, 0 dBf = 1×10^{-15} W)

Receiving Range:	87.50 ~ 108.00 MHz
Usable Sensitivity:	0.9 μV (10.3 dBf)
Signal to Noise Ratio (IHF-A):	MONO: 82 dB
	STEREO: 78 dB
Image Rejection:	65 dB
Selectivity (±300 kHz):	55 dB
Frequency Response:	30 Hz ~ 15 kHz $^{+0.2}_{-1.5}$ dB
Stereo Separation (at 1 kHz):	40 dB

[AM]

Receiving Range:	522 ~ 1611 kHz
Usable Sensitivity:	18 μV
Signal to Noise Ratio:	55 dB

GENERAL

Power Supply:	AC 230 V 50Hz
Power Consumption:	190 W
Power Outlet:	SWITCHED 100 W
Dimensions:	434 mm (W) × 134 mm (H) × 366 mm (D)
Weight:	8.5 kg

REMOTE CONTROL UNIT — RC-174

Remote Control System:	Infrared pulse system
Power Supply:	3 V DC Two size "AA" (R6) dry cell batteries
External dimensions:	60 mm (W) × 175 mm (H) × 18 mm (D)
Weight:	120 g (includes batteries)

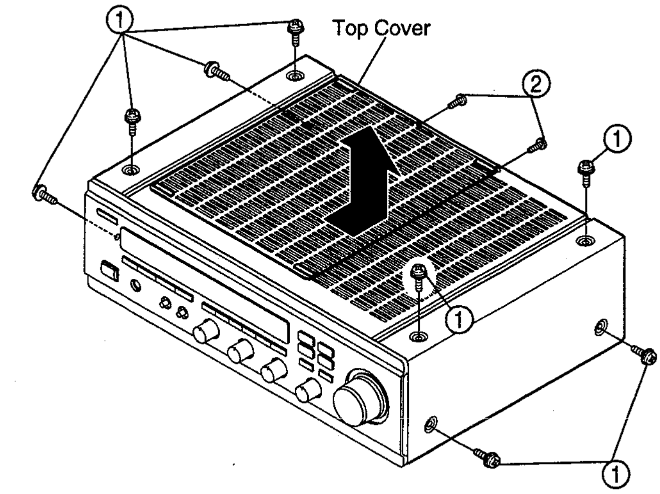
DISASSEMBLY

(To reassemble reverse disassembly)

1. Top Cover

(1) Remove 8 screws ①.

(2) Remove 2 screws ②.



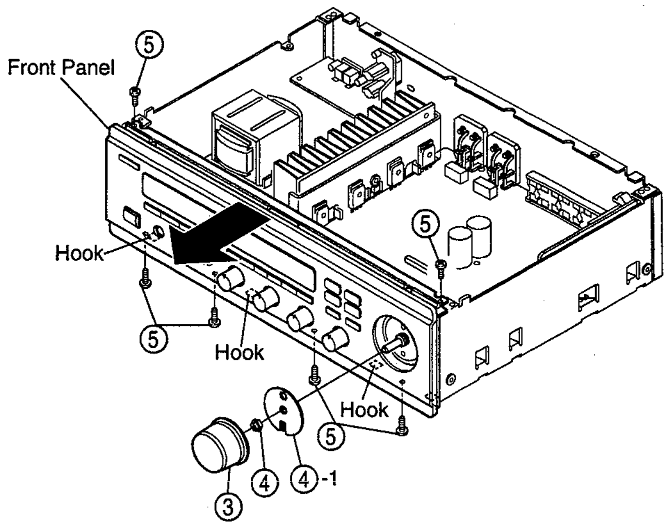
2. Front Panel

(1) Pull out Volume knob ③.

(2) Remove nut ④.

(3) Remove Volume Plate ④-1.

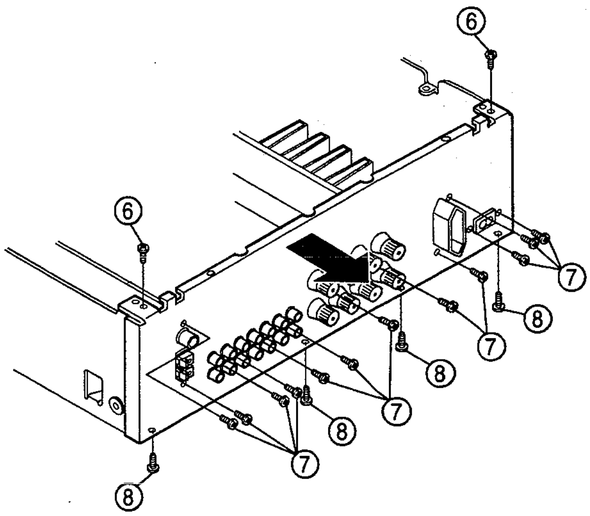
(4) Remove 6 screws ⑤ and undo hooks at 3 places.



3. Rear Panel

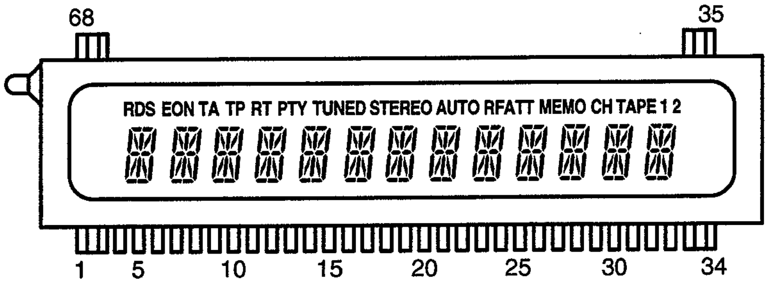
(1) Remove 2 screws ⑥ and 12 fixing screws ⑦.

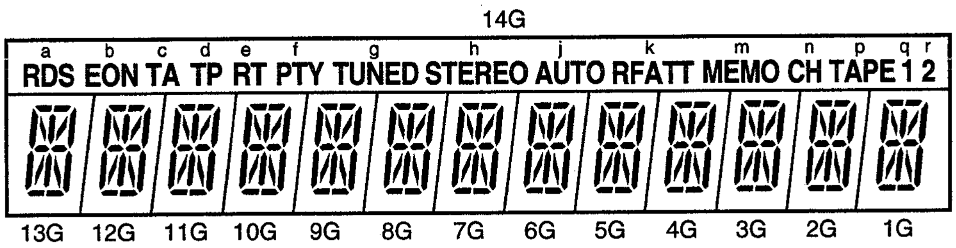
(2) Remove 4 screws ⑧.

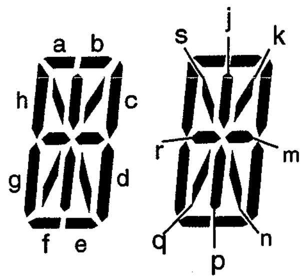


SEMICONDUCTOR (FLD)

● FLD (14-BT39GK)







TERMINAL CONNECTION

(UPPER)

TERMINAL No.	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52
ELECTRODE	F1	F1	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
TERMINAL No.	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35
ELECTRODE	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	F2	F2

(LOWER)

TERMINAL No.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
ELECTRODE	P a	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	F2	F2
TERMINAL No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ELECTRODE	F1	F1	P s	P r	P q	P p	P n	P m	P k	P j	P h	P g	P f	P e	P d	P c	P b

Notes: F: Filament G: Grid A: Anode NP: No Pin

NOTE FOR PARTS LIST

- Part indicated with the mark "⊙" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:
Parts marked with this symbol ⚠ ▒▒▒ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN 14K 2E 182 G FR

RN	14K	2E	182	G	FR
Type	Shape and performance	Power	Resistance	Allowable error	Others

Type	Power	Allowable error	Others
RD : Carbon	2B : 1/8W	F : ±1%	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : ±2%	NL : Low noise type
RS : Metal oxide film	2H : 1/2W	J : ±5%	NB : Non-burning type
RW : Winding	3A : 1W	K : ±10%	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : ±20%	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

*** Resistance**

1 8 2 ⇒ 1800 ohm = 1.8 kohm
2 — Indicates number of zeros after effective number.
1 8 — 2-digit effective number.

- Units: ohm

1 R 2 ⇒ 1.2 ohm
2 — 1-digit effective number.
1 R — 2-digit effective number, decimal point indicated by R.

- Units: ohm

● Capacitors

Ex.: CE 04W 1H 2R2 M BP

CE	04W	1H	2R2	M	BP
Type	Shape and performance	Dielectric strength	Capacity	Allowable error	Others

Type	Dielectric strength	Allowable error	Others
CE : Aluminum foil electrolytic	0J : 6.3V	F : ±1%	HS : High stability type
CA : Aluminum solid electrolytic	1A : 10V	G : ±2%	BP : Non-polar type
CS : Tantalum electrolytic	1C : 16V	J : ±5%	HR : Ripple-resistant type
CQ : Film	1E : 25V	K : ±10%	DL : For change and discharge
CK : Ceramic	1V : 35V	M : ±20%	HF : For assuring high frequency
CC : Ceramic	1H : 50V	Z : +80% −20%	U : UL part
CP : Oil	2A : 100V		C : CSA part
CM : Mica	2B : 125V	P : +100% −0%	W : UL-CSA type
CF : Metallized	2C : 160V		F : Lead wire forming
CH : Metallized	2D : 200V	C : ±0.25pF	
	2E : 250V	D : ±0.5pF	
	2H : 500V	= : Others	
	2J : 630V		

*** Capacity (electrolyte only)**

2 2 2 ⇒ 2200μF
2 — Indicates number of zeros after effective number.
2 2 — 2-digit effective number.

- Units: μF.

2 R 2 ⇒ 2.2μF
2 — 1-digit effective number.
2 R — 2-digit effective number, decimal point indicated by R.

- Units: μF.

*** Capacity (except electrolyte)**

2 2 2 ⇒ 2200pF=0.0022μF
2 —(More than 2)— Indicates number of zeros after effective number.
2 2 — 2-digit effective number.

- Units: μF.

2 2 1 ⇒ 220pF
1 —(0 or 1)— Indicates number of zeros after effective number.
2 2 — 2-digit effective number.

- Units: pF.

- When the dielectric strength is indicated in AC, "AC" is included after the dieelectric strength value.

PARTS LIST OF P.W.B. UNIT

1U-2817G MAIN UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC101	262 1227 008	IC LC7821	
IC301	263 0615 902	IC BA15218F	
IC401	263 1010 001	IC BA178M06	
IC701	263 1032 908	IC NJM2082MD	
IC801	262 1701 906	IC :SAA6579T	
IC802	262 1929 908	IC LC7074M	
TR251	274 0158 003	Transistor 2SD1763A(D)	
TR252	272 0115 008	Transistor 2SB1186A(D)	
TR253	273 0432 904	Transistor 2SC2389S(S/E)	
TR254	271 0280 901	Transistor 2SA1038S(S/E)	
TR255	273 0432 984	Transistor 2SC2389S(S/E)	
TR256	271 0280 901	Transistor 2SA1038S(S/E)	
TR257	273 0432 904	Transistor 2SC2389S(S/E)	
TR301,302	269 0107 900	Transistor RN1241(A/B)	Built in resistor
TR303,304	273 0235 923	Transistor 2SC1841(E/F)	
TR305~308	271 0131 924	Transistor 2SA988(E/F)	
TR309,310	273 0235 923	Transistor 2SC1841(E/F)	
TR315,316	273 0198 905	Transistor 2SC1815(Y)	
TR317,318	274 0060 900	Transistor 2SD667A(C)	
TR319,320	272 0053 908	Transistor 2SB647A(C)	
TR321,322	273 0389 002	Transistor 2SC3855(O/P/Y)	
TR323,324	271 0240 006	Transistor 2SA1491(O/P/Y)	
TR325,326	273 0235 923	Transistor 2SC1841(E/F)	
TR401	273 0384 900	Transistor 2SC2412K(S)	
TR402	269 0048 904	Transistor DTC143EK	Built in resistor
TR403	273 0384 900	Transistor 2SC2412K(S)	
TR404	272 0131 901	Transistor 2SB1041(R)	
TR451	271 0131 924	Transistor 2SA988(E/F)	
TR452	273 0432 904	Transistor 2SC2389S(S/E)	
TR453	269 0054 901	Transistor DTC144EK	Built in resistor
TR454	273 0384 900	Transistor 2SC2412K(S)	
TR455	273 0388 906	Transistor 2SC1740S(E)	
TR456	271 0192 905	Transistor 2SA933S(S)	
TR457	273 0388 906	Transistor 2SC1740S(E)	
TR458,459	273 0432 904	Transistor 2SC2389S(S/E)	
TR460	273 0384 900	Transistor 2SC2412K(S)	
TR471	269 0083 901	Transistor DTA114EK	Built in resistor
TR473	269 0054 901	Transistor DTC144EK	Built in resistor
D251	276 0424 005	Bridge diode 4D4B42	
D252	276 0553 905	Diode 1SR35-200A	
D253,254	276 0432 903	Diode 1SS270A	
D303~306	276 0619 904	Diode 1S2471	
D307~312	276 0432 903	Diode 1SS270A	
D401,402	276 0432 903	Diode 1SS270A	
D403	276 0553 905	Diode 1SR35-200A	
D405~410	276 0553 905	Diode 1SR35-200A	
D411,412	276 0432 903	Diode 1SS270A	
D451~453	276 0432 903	Diode 1SS270A	
D651	276 0432 903	Diode 1SS270A	
ZD101	276 0634 905	Zener diode MTZJ3.3A	
ZD251,252	276 0637 902	Zener diode MTZJ6.2A	
ZD401	276 0634 905	Zener diode MTZJ3.3A	
ZD402	276 0633 906	Zener diode MTZJ6.8C	
ZD403	276 0632 907	Zener diode MTZJ27D	
ZD451~453	276 0635 904	Zener diode MTZJ7.5C	
SC451	279 0016 904	Thyristor SF0R1A42	
RESISTORS GROUP			
VR305,306	211 6093 909	Semi fixed resistor 6.8Kohm	V06PB682
R001,002	247 0018 905	Carbon chip 0ohm 1/10W	RM73B—0R0K
R101~108	247 0014 967	Carbon chip 1Mohm 1/10W	RM73B—105J
R109~116	247 0006 962	Carbon chip 470ohm 1/10W	RM73B—471J
R117	247 0014 925	Carbon chip 680kohm 1/10W	RM73B—684J
R131~134	247 0014 967	Carbon chip 1Mohm 1/10W	RM73B—105J
R135~138	247 0006 962	Carbon chip 470ohm 1/10W	RM73B—471J
⚠R201,202	244 2052 931	Metal oxide film 390ohm 1W	RS14B3A391JNBS(S)
⚠R259,260	241 2387 940	Carbon 4.7ohm 1/4W	RD14B2E4R7JNBS
R263	247 0009 985	Carbon chip 10kohm 1/10W	RM73B—103J
R264	247 0012 927	Carbon chip 100kohm 1/10W	RM73B—104J
R305,306	247 0012 969	Carbon chip 150kohm 1/10W	RM73B—154J
R307,308	247 0006 962	Carbon chip 470ohm 1/10W	RM73B—471J
R309,310	247 0009 914	Carbon chip 5.1kohm 1/10W	RM73B—512J
⚠R311,312	241 2379 932	Carbon 620ohm 1/4W	RD14B2E621JNBS
R323,324	247 0005 989	Carbon chip 220kohm 1/10W	RM73B—221J
⚠R329,330	241 2378 920	Carbon 220ohm 1/4W	RD14B2E221JNBS
⚠R331~334	244 2043 982	Metal oxide film 0.22ohm 1W	RS14B3AR22JNBS(S)
R335,336	247 0013 984	Carbon chip 470kohm 1/10W	RM73B—474J
R351,352	247 0012 901	Carbon chip 82kohm 1/10W	RM73B—823J
R353,354	247 0012 969	Carbon chip 150kohm 1/10W	RM73B—154J
R355,356	247 0004 922	Carbon chip 47ohm 1/10W	RM73B—470J
R357	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B—472J
R358	247 0011 944	Carbon chip 47kohm 1/10W	RM73B—473J
⚠R361~364	244 2043 982	Metal oxide film 0.22ohm 1W	RS14B3AR22JNBS(S)
⚠R385,386	241 2379 932	Carbon 620ohm 1/4W	RD14B2E621JNBS
⚠R387~390	241 2377 989	Carbon 150ohm 1/4W	RD14B2E151JNBS
⚠R391,392	244 2043 937	Metal oxide film 10ohm 1W	RS14B3A100JNBS(S)

Ref. No.	Part No.	Part Name	Remarks
R401	247 0013 900	Carbon chip 220kohm 1/10W	RM73B—224J
R402	247 0009 985	Carbon chip 10kohm 1/10W	RM73B—103J
R403	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B—472J
R404,405	247 0007 945	Carbon chip 1kohm 1/10W	RM73B—102J
R406	247 0009 985	Carbon chip 10kohm 1/10W	RM73B—103J
R407	247 0010 958	Carbon chip 20kohm 1/10W	RM73B—203J
R408	247 0009 985	Carbon chip 10kohm 1/10W	RM73B—103J
R409	247 0007 945	Carbon chip 1kohm 1/10W	RM73B—102J
R410	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B—472J
⚠R411	244 2051 987	Metal oxide film 4.7ohm 1W	RS14B3A4R7JNBS(S)
⚠R412	241 2377 947	Carbon 100ohm 1/4W	RD14B2E101JNBS
⚠R415	241 2387 908	Carbon 1ohm 1/4W	RD14B2E010JNBS
⚠R451,452	244 2052 902	Metal oxide film 2.7kohm 1W	RS14B3A272JNBS(S)
⚠R453	244 2051 990	Metal oxide film 4.7kohm 1W	RS14B3A472JNBS(S)
R460	247 0011 944	Carbon chip 47kohm 1/10W	RM73B—473J
⚠R465,466	244 2052 902	Metal oxide film 2.7kohm 1W	RS14B3A272JNBS(S)S
⚠R467	244 2050 991	Metal oxide film 6.8kohm 1W	RS14B3A682JNBS(S)
R468	244 2052 957	Metal oxide film 5.6kohm 1W	RS14B3A562JNBS(S)
R475	247 0010 929	Carbon chip 15kohm 1/10W	RM73B—153J
R701,702	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B—472J
R703,704	247 0012 969	Carbon chip 150kohm 1/10W	RM73B—154J
R705,706	247 0011 986	Carbon chip 68kohm 1/10W	RM73B—683J
R707,708	247 0004 922	Carbon chip 47ohm 1/10W	RM73B—470J
R709,710	247 0005 992	Carbon chip 240ohm 1/10W	RM73B—241J
R711,712	247 0012 956	Carbon chip 130kohm 1/10W	RM73B—134J
R713,714	247 0009 998	Carbon chip 11kohm 1/10W	RM73B—113J
R715,716	247 0003 949	Carbon chip 22ohm 1/10W	RM73B—220J
R717,718	247 0005 905	Carbon chip 100ohm 1/10W	RM73B—101J
R719,720	247 0012 927	Carbon chip 100kohm 1/10W	RM73B—104J
CAPACITORS GROUP			
C101~108	257 0004 903	Ceramic chip 56pF/50V	CC73SL1H560J
C109,110	253 1179 945	Ceramic 220pF/50V	CK45B1H221KT
C111	257 0002 921	Ceramic chip 10pF/50V	CC73SL1H100D
C112,113	257 0012 982	Ceramic chip 0.022μF/50V	CK73F1H223Z
C124,125	257 0012 982	Ceramic chip 0.022μF/50V	CK73F1H223Z
C127	257 0012 982	Ceramic chip 0.022μF/50V	CK73F1H223Z
C131~134	257 0004 903	Ceramic chip 56pF/50V	CC73SL1H560J
C201~204	255 1265 907	Film 6800pF/50V	CQ93M1H682J(B)
C205,206	257 0006 985	Ceramic chip 820pF/50V	CC73SL1H821J
C251~254	254 4258 918	Electrolytic 10μF/35V	CE04W1V100M
⚠C257,258	254 6201 002	Electrolytic 7200μF/63V	CE04W==722MC(DL)
C259	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C307,308	257 0006 927	Ceramic chip 470pF/50V	CC73SL1H471J
C309,310	255 1265 936	Film 0.01 μF/50V	CQ93M1H103J(B)
C311~314	253 4536 909	Ceramic 10pF/50V	CC45SL1H100D
C321,322	255 1265 936	Film 0.01 μF/50V	CQ93M1H103J(B)
C323,324	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C325.326	255 1265 936	Film 0.01μF/50V	CQ93M1H103J(B)

Ref. No.	Part No.	Part Name	Remarks
C327~330	254 4263 945	Electrolytic 1μF/100V	CE04W2A010M
C331,332	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C333,334	254 4260 922	Electrolytic 0.33μF/50V	CE04W1HR33M
C335,336	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
C337,338	257 0002 992	Ceramic chip 20pF/50V	CC73SL1H200J
C339,340	254 4254 925	Electrolytic 33μF/16V	CE04W1C330M
C341,342	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
⚠C353,354	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J
C355,356	255 1265 978	Film 0.022μF/50V	CQ93M1H223J(B)
C357	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C358	253 9030 963	Ceramic 0.01μF/25V	CK45=1E103K
C359,360	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C401	254 4258 905	Electrolytic 4.7μF/35V	CE04W1V4R7M
C402	257 0012 966	Ceramic chip 0.01μF/50V	CK73F1H103Z
C403	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C404,405	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C406	259 0007 702	For back up 8200μF	SB CAP==822=C
C407	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C408	254 4403 734	Electrolytic 4700μF/25V	CE04W1E472MC(SMG)
C409	254 4261 921	Electrolytic 100μF/50V	CE04W1H101M
C410	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C451	254 4260 980	Electrolytic 10μF/50V	CE04W1H100M
C452	254 4254 925	Electrolytic 33μF/16V	CE04W1C330M
C453	254 4250 945	Electrolytic 330μF/6.3V	CE04W0J331M
C456	255 1265 936	Film 0.01μF/50V	CQ93M1H103J(B)
C459,460	253 1151 905	Ceramic 4700pF/500V	CK45E2H472P
⚠C461	256 1042 903	Metalized 0.1μF/250V	CF93A2E104K
C462	254 4254 938	Electrolytic 47μF/16V	CE04W1C470M
C549	254 4252 927	Electrolytic 47μF/10V	CE04W1A470M
C582	253 4538 949	Ceramic 100pF/50V	CK45SL1H101J
C701,702	257 0003 988	Ceramic chip 47pF/50V	CC73SL1H470J
C703,704	257 0005 944	Ceramic chip 220pF/50V	CC73SL1H221J
C705,706	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C709,710	254 4250 929	Electrolytic 100μF/6.3V	CE04W0J101M
C711,712	255 4199 999	Film 0.024μF/50V	CQ92M1H243J(MRZ)
C713,714	255 1265 907	Film 6800pF/50V	CQ93M1H682J(B)
C715,716	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C717,718	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C724	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C725	257 0012 982	Ceramic chip 0.022μF/50V	CK73F1H223Z
C801,802	257 0016 962	Ceramic chip 27pF/50V	CC73CH1H270J
C803~805	254 4250 916	Electrolytic 47μF/6.3V	CE04W0J470M
C807,808	257 0003 933	Ceramic chip 30pF/50V	CC73SL1H300J
C809	257 0012 966	Ceramic chip 0.01μF/50V	CK73F1H103Z
C810	254 4250 916	Electrolytic 47μF/6.3V	CE04W0J470M
C811	257 0006 943	Ceramic chip 560pF/50V	CC73SL1H561J

1U-2818 TUNER UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
OTHERS PARTS GROUP			
⚠AC401	203 3961 004	1P AC outlet	
CB29D	205 0990 045	29P FFC connector base	
CB6A,6C	205 0343 061	6P connector base (KR-PH)	
CB8A	205 0343 087	8P connector base (KR-PH)	
CB8B,8C	205 0806 090	8P connector base (9115)	
⚠CN2A	203 2349 009	2P inlet	
CN2B	205 0581 085	2P VH connector base	Blue
CN2C	203 2377 000	2P DA-DA connector cord	
CN3A	205 0581 001	2P VH connector base	White
CN7A	205 0653 078	7P VH connector base	
⚠F401	206 1075 030	Fuse (2.0A)	
⚠F402	206 1075 043	Fuse (2.5A)	
	513 2585 074	Fuse label	for F402
	202 0040 909	Fuse clip	for F401, F402
L391,392	235 0104 007	Inductor(1MHz)	
L701,702	235 9003 002	FTZ choke coil	
RL451,452	214 0167 005	Relay(G5Z-2A)	
RL453	214 0127 003	Relay(RY-12W)	
TH451	279 0034 067	Posistor	PTH9M04BB222TS2F333
TP001,002	205 0190 036	3P NH Connector base	TEST POINT
XL601	399 0178 007	Crystal	4.332MHz
XT801	399 0041 901	Resonator	CSA4.00MG
	205 0484 001	8P speaker terminal	
	203 0475 056	1P contact Ass'y	D-D
JK101	204 8485 012	4P pin jack(S-GND) AU	
JK102	204 8486 011	6P pin jack(S-GND) AU	
JK103	204 8485 012	4P pin jack(S-GND) AU	
	461 0415 007	Rubber sheet	for C582

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC501	263 0891 001	IC LA1265(S)	
IC502	263 0439 007	IC LA3401	
IC503	262 2349 901	IC LM7001JUM	
IC504	263 0794 001	IC NJM78M12FA(S)	
TR501	275 0074 902	Transistor 2SK211(Y/GR)	
TR502	273 0438 908	Transistor 2SC2413K (Q)	
TR503	269 0157 905	Transistor DTB123EK	Built in resistor
TR504	269 0083 901	Transistor DTA114EK	Built in resistor
TR505,506	269 0054 901	Transistor DTC144EK	Built in resistor
TR507	271 0286 905	Transistor 2SA1515S(R)	
TR508	275 0075 901	Transistor 2SK209(Y/GR)	
TR509	273 0403 904	Transistor 2SC2712(Y/GR)	
D501	276 0559 909	Diode DAP202K	
RESISTORS GROUP (Not included carbon film ±5% 1/4W)			
R001~016	247 0018 905	Chip 0ohm 1/10W	RM73B—0R0K
R501	247 0004 906	Chip 39ohm 1/10W	RM73B—390J
R502	247 0006 946	Chip 390ohm 1/10W	RM73B—391J
R503	247 0009 985	Chip 10kohm 1/10W	RM73B—103J
R504	247 0009 927	Chip 5.6kohm 1/10W	RM73B—562J
R505	247 0006 920	Chip 330ohm 1/10W	RM73B—331J
R506	247 0009 901	Chip 4.7kohm 1/10W	RM73B—472J
R507	247 0005 989	Chip 220ohm 1/10W	RM73B—221J
R508,509	247 0006 920	Chip 330ohm 1/10W	RM73B—331J
R510	247 0006 988	Chip 560ohm 1/10W	RM73B—561J
R511	247 0012 927	Chip 100kohm 1/10W	RM73B—104J
R512	247 0009 914	Chip 5.1kohm 1/10W	RM73B—512J
R513	247 0005 905	Chip 100ohm 1/10W	RM73B—101J
R514	247 0008 986	Chip 3.9kohm 1/10W	RM73B—392J
R515	247 0006 946	Chip 390ohm 1/10W	RM73B—391J
R516	247 0005 947	Chip 150ohm 1/0W	RM73B—151J
R517	247 0009 985	Chip 10kohm 1/10W	RM73B—103J
R518	247 0018 905	Chip 0ohm 1/10W	RM73B—0R0K
R519	247 0009 901	Chip 4.7kohm 1/10W	RM73B—472J
R520	247 0004 980	Chip 82ohm 1/10W	RM73B—820J
R521	247 0008 944	Chip 2.7kohm 1/10W	RM73B—272J
R522	247 0011 902	Chip 33kohm 1/10W	RM73B—333J
R523~525	247 0009 985	Chip 10kohm 1/10W	RM73B—103J
R526	247 0008 957	Chip 3kohm 1/10W	RM73B—302J
R527	247 0011 986	Chip 68kohm 1/10W	RM73B—683J
R528	247 0009 943	Chip 6.8kohm 1/10W	RM73B—682J
R529	247 0008 960	Chip 3.3kohm 1/10W	RM73B—332J
R530	247 0012 927	Chip 100kohm 1/10W	RM73B—104J
R532	247 0009 985	Chip 10kohm 1/10W	RM73B—103J
R533	247 0007 945	Chip 1kohm 1/10W	RM73B—102J
R534	247 0011 915	Chip 36kohm 1/10W	RM73B—363J
R535	247 0010 974	Chip 24kohm 1/10W	RM73B—243J
R536	247 0012 985	Chip 180kohm 1/10W	RM73B—184J

Ref. No.	Part No.	Part Name	Remarks
R537	247 0012 998	Chip 200kohm 1/10W	RM73B—204J
R538	247 0012 985	Chip 180kohm 1/10W	RM73B—184J
R539	247 0012 998	Chip 200kohm 1/10W	RM73B—204J
R540,541	247 0008 902	Chip 1.8kohm 1/10W	RM73B—182J
R542,543	247 0009 901	Chip 4.7kohm 1/10W	RM73B—472J
R544	247 1007 986	Chip 1.5kohm 1/8W	RM73B2B152J
R545	247 0009 985	Chip 10kohm 1/10W	RM73B—103J
R546	247 0012 927	Chip 100kohm 1/10W	RM73B—104J
CAPACITORS GROUP			
C501~506	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C507	257 0002 947	Chip(Ceramic) 12pF/50V	CC73SL1H120J
C508	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C509	257 0004 961	Chip(Ceramic) 100pF/50V	CC73SL1H101J
C510	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C511	254 4260 906	Electrolytic 0.1µF/50V	CE04W1H0R1M
C513	254 3056 917	Electrolytic 1µF/50V (Non-polar)	CE04D1H010MBP
C514	257 0012 982	Chip(Ceramic) 0.022µF/50V	CK73F1H223Z
C515,516	257 0002 976	Chip(Ceramic) 16pF/50V	CC73SL1H160J
C517	254 4254 938	Electrolytic 47µF/16V	CE04W1C470M
C518,519	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C520	254 4260 922	Electrolytic 0.33µF/50V	CE04W1HR33M
C521	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C522	254 4256 936	Electrolytic 47µF/25V	CE04W1E470M
C523	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C524	254 4260 964	Electrolytic 3.3µF/50V	CE04W1H3R3M
C525	257 0012 982	Chip(Ceramic) 0.022µF/50V	CK73F1H223Z
C526	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C527	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C528	254 4254 909	Electrolytic 10µF/16V	CE04W1C100M
C529	257 1013 951	Chip(Ceramic) 0.047µF/25V	CK73F1E473K
C530	254 4254 912	Electrolytic 22µF/16V	CE04W1C220M
C531	257 0004 961	Chip(Ceramic) 100pF/50V	CC73SL1H101J
C532	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C533	254 4260 919	Electrolytic 0.22µF/50V	CE04W1HR22M
C534	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C535,536	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C537	254 4254 912	Electrolytic 22µF/16V	CE04W1C220M
C538	254 4254 938	Electrolytic 47µF/16V	CE04W1C470M
C539,540	257 0005 960	Chip(Ceramic) 270pF/50V	CC73SL1H271J
C541	254 4260 951	Electrolytic 2.2µF/50V	CE04W1H2R2M
C545	253 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C548	254 4260 951	Electrolytic 2.2µF/50V	CE04W1H2R2M
C550,551	254 4260 948	Electrolytic 1µF/50V	CE04W1H010M
C553,554	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C555	256 1058 939	Metalized 0.047µF/50V	CF93A1H473J(JL)
C561	257 0012 966	Chip(Ceramic) 0.01µF/50V	CK73F1H103Z
C581	253 1181 904	Ceramic 0.01µF/50V	CK45F1H103Z
C583	253 4538 046	Ceramic 100pF/50V	CC45SL1H101J

Ref. No.	Part No.	Part Name	Remarks
OTHERS PARTS GROUP			
CF501,502	261 0064 007	Ceramic filter	SFT10.7MS2
CF504	261 0101 009	Ceramic filter	BFU450C4N
CN8B,8C	205 0805 091	8P connector socket	
FE501	216 0065 006	Front end	
T501	231 1913 004	MW antenna OSC coil	
T502	231 2099 008	FM DET trans	
T503	231 3904 008	AM IFT	
T504	232 9010 009	Antibirdie filter	
T505,506	232 0085 004	LPF	
XL502	261 0103 007	Resonator	CSB456F11
XL503	399 0075 003	Crystal	7.2MHz
	205 0847 004	3P antenna terminal(PAL/F)	
	001 0036 064	VINYL wire	with R581
	461 0415 007	Rubber sheet	for R581
	205 0003 107	3T LUG	with C382
	415 0309 026	P.V.C. Tube (ϕ1, ℓ=20)	for C382

1U-3204 DISPLAY UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC601	262 2249 001	IC TMP87CM71F-6348	
IC602	263 0905 900	IC BA6208F	
ZD651	276 0654 901	Zener diode DTZ8.2B	
FL401	393 8020 007	VFD(14-BT-39GK)	
RESISTORS GROUP			
R301,302	247 0011 928	Carbon chip 39kohm 1/10W	RM73B--393J
R303,304	247 0009 943	Carbon chip 6.8kohm 1/10W	RM73B--682J
R361,362	247 0011 973	Carbon chip 62kohm 1/10W	RM73B--623J
R363,364	247 0009 998	Carbon chip 11kohm 1/10W	RM73B--113J
R365,366	247 0008 931	Carbon chip 2.4kohm 1/10W	RM73B--242J
R367,368	247 0013 984	Carbon chip 470kohm 1/10W	RM73B--474J
R369,370	247 0010 945	Carbon chip 18kohm 1/10W	RM73B--183J
R371,372	247 0009 943	Carbon chip 6.8kohm 1/10W	RM73B--682J
R373,374	247 0006 917	Carbon chip 300ohm 1/10W	RM73B--301J
R375,376	247 0011 944	Carbon chip 47kohm 1/10W	RM73B--473J
R379,380	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B--472J
R651	247 1009 900	Carbon chip 4.7kohm 1/8W	RM73B2B472J
R652~657	247 0009 985	Carbon chip 10kohm 1/10W	RM73B--103J
R665	247 0007 945	Carbon chip 1kohm 1/10W	RM73B--102J
R666	247 0005 976	Carbon chip 200ohm 1/10W	RM73B--201J
R667	247 0006 917	Carbon chip 300ohm 1/10W	RM73B--301J
R668	247 0007 945	Carbon chip 1kohm 1/10W	RM73B--102J
R669	247 0005 976	Carbon chip 200ohm 1/10W	RM73B--201J
R670	247 0006 917	Carbon chip 300ohm 1/10W	RM73B--301J
R671	247 0007 945	Carbon chip 1kohm 1/10W	RM73B--102J
R672	247 0005 976	Carbon chip 200ohm 1/10W	RM73B--201J
R673	247 0006 917	Carbon chip 300ohm 1/10W	RM73B--301J
R674	247 0006 975	Carbon chip 510ohm 1/10W	RM73B--511J
R675,676	247 0007 945	Carbon chip 1kohm 1/10W	RM73B--102J
R677	247 0005 976	Carbon chip 200ohm 1/10W	RM73B--201J
R678	247 0006 917	Carbon chip 300ohm 1/10W	RM73B--301J
R679	247 0006 975	Carbon chip 510ohm 1/10W	RM73B--511J
R680	247 0007 945	Carbon chip 1kohm 1/10W	RM73B--102J
R681~683	247 0009 985	Carbon chip 10kohm 1/10W	RM73B--103J
R685	247 0008 957	Carbon chip 3kohm 1/10W	RM73B--302J
VR301	211 0841 018	Variable resistor 100kohm	V14P22FW104K
VR302	211 0831 002	Variable resistor 100kohm	V1620V25F=104R(MG)
VR303	211 0842 017	Variable resistor 250kohm	V14P22FC254K
VR304	211 0843 016	Variable resistor 50kohm	V14P22FC503K
VR307	211 9131 004	Variable resistor 100kohm	V14P22FB104K

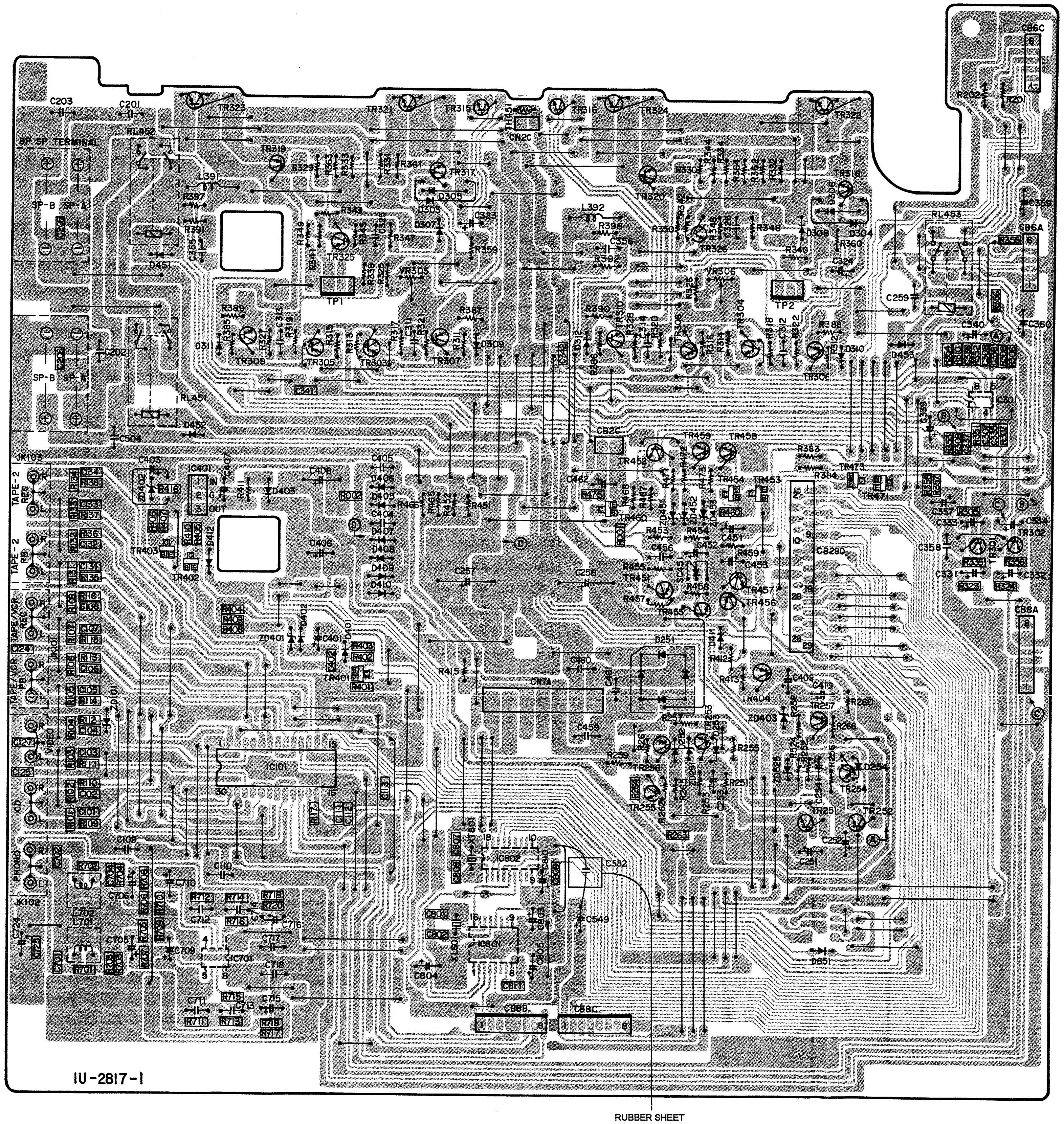
Ref. No.	Part No.	Part Name	Remarks	Q'ty
CAPACITORS GROUP				
C300	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z	
C301,302	257 0006 943	Ceramic chip 560 pF/50V	CC73SL1H561J	
C303,304	255 1265 978	Mylar film 0.022 µF/50V	CQ93M1H223J(B)	
C361,362	257 0004 961	Ceramic chip 100 pF/50V	CC73SL1H101J	
C363,364	255 1265 981	Mylar film 0.027 µF/50V	CQ93M1H273J(B)	
C365,366	256 1058 984	Metallized 0.12 µF/50V	CF93A1H124J(JL)	
C367,368	255 1264 924	Mylar film 1500 pF/50V	CQ93M1H152J(B)	
C369,370	255 1265 936	Mylar film 0.01 µF/50V	CQ93M1H103J(B)	
C372	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z	
⚠C411	253 8014 702	Ceramic 0.01 µF/400V(AC)	CK45F2GAC103MC	
C651	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z	
C652	254 4300 963	Electrolytic 100 µF/6.3V	CE04W0J101M(SRE)	
C653	257 0012 966	Ceramic chip 0.01 µF/50V	CK73F1H103Z	
C655	254 4299 964	Electrolytic 47 µF/16V	CE04W1C470M(SRE)	
C657	257 0012 982	Ceramic chip 0.022 µF/50V	CK73F1H223Z	
C666	257 0004 961	Ceramic chip 100 pF/50V	CC73SL1H101J	
OTHER PARTS GROUP				**Q'ty**
CB2B	205 0581 085	2P VH connector base	Blue	1
CB8D	205 0919 026	8P JQ sockt (Side)		1
CB10A	205 0375 000	10P connector base (KR-PH)		1
CN6A,6C	205 0355 062	6P KR connector base (L)		2
CN8A	205 0355 088	8P KR connector base (L)		1
CN8D	205 0408 045	8P JQ connector		1
CN10A	205 0480 005	10P KR connector base (L)		1
CN29D	205 0990 045	29P FFC connector base		1
G003	203 0418 071	1P SIN cord Ass'y		1
JK201	204 8341 004	Headphone jack		1
RM601	499 2023 007	Remocon sensor	SBX1810-52	1
SW601-603	212 5604 910	Tact switch		3
SW605-617	212 5604 910	Tact switch		13
⚠SW401	212 1101 006	Power switch (TV-5)		1
SW302,303	212 1140 009	Push switch (ESB6440)		2
XL651	399 0261 901	Resonator	DCRH4.00M	1
	461 0877 014	Rubber sheet	for FL401	2
	415 0299 000	Condenser cover	for C411	1
	203 5103 019	3P SAN-SAN connector cord	CB3C~CN3C	1
	414 0740 006	Shield plate		1

PRINTED WIRING BOARDS

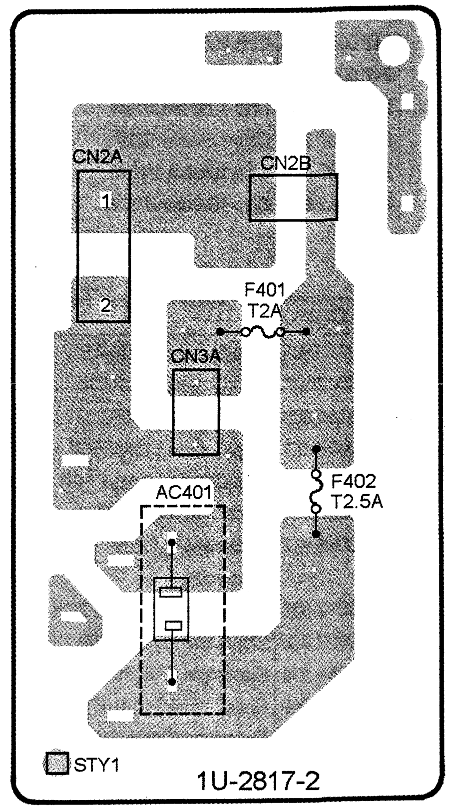
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A B C D E

1U-2817-1 MAIN UNIT ASS'Y



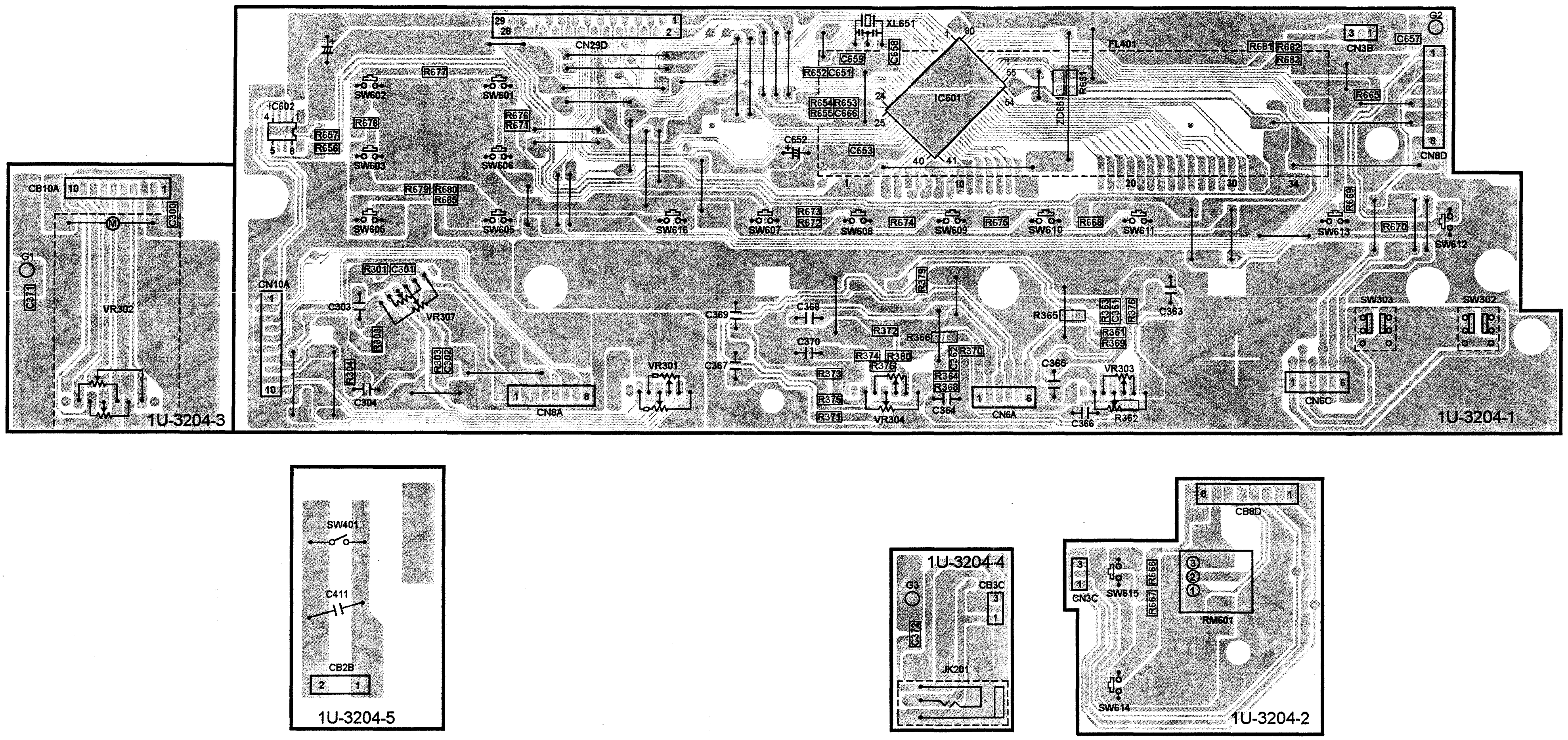
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1U-3204 DISPLAY UNIT ASS'Y

A

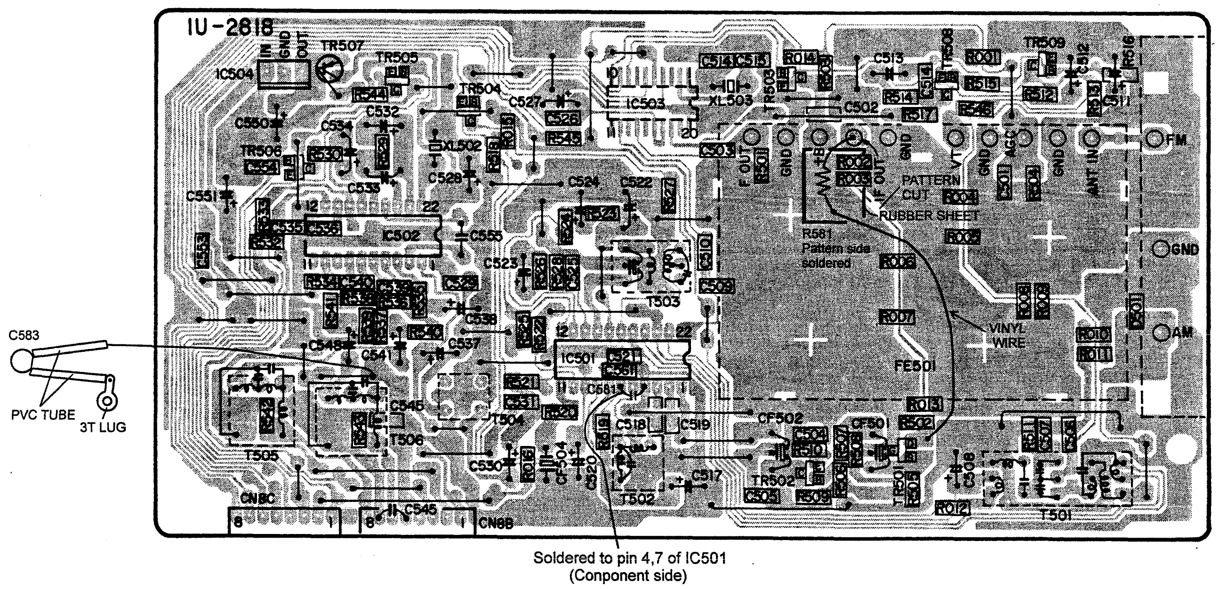


B

C

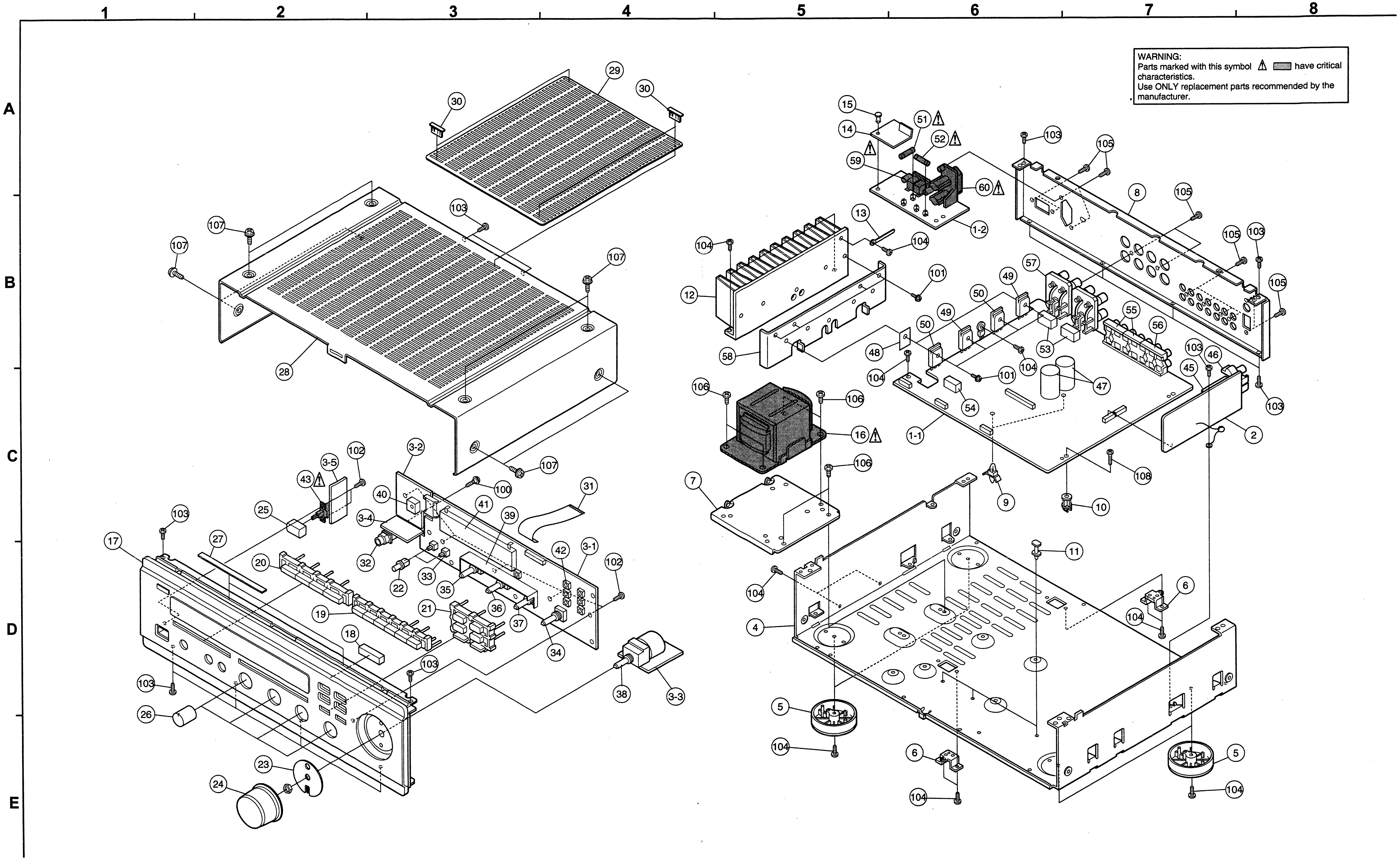
1U-2818 TUNER UNIT ASS'Y

D



E

EXPLODED VIEW



WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

PARTS LIST OF EXPLODED VIEW

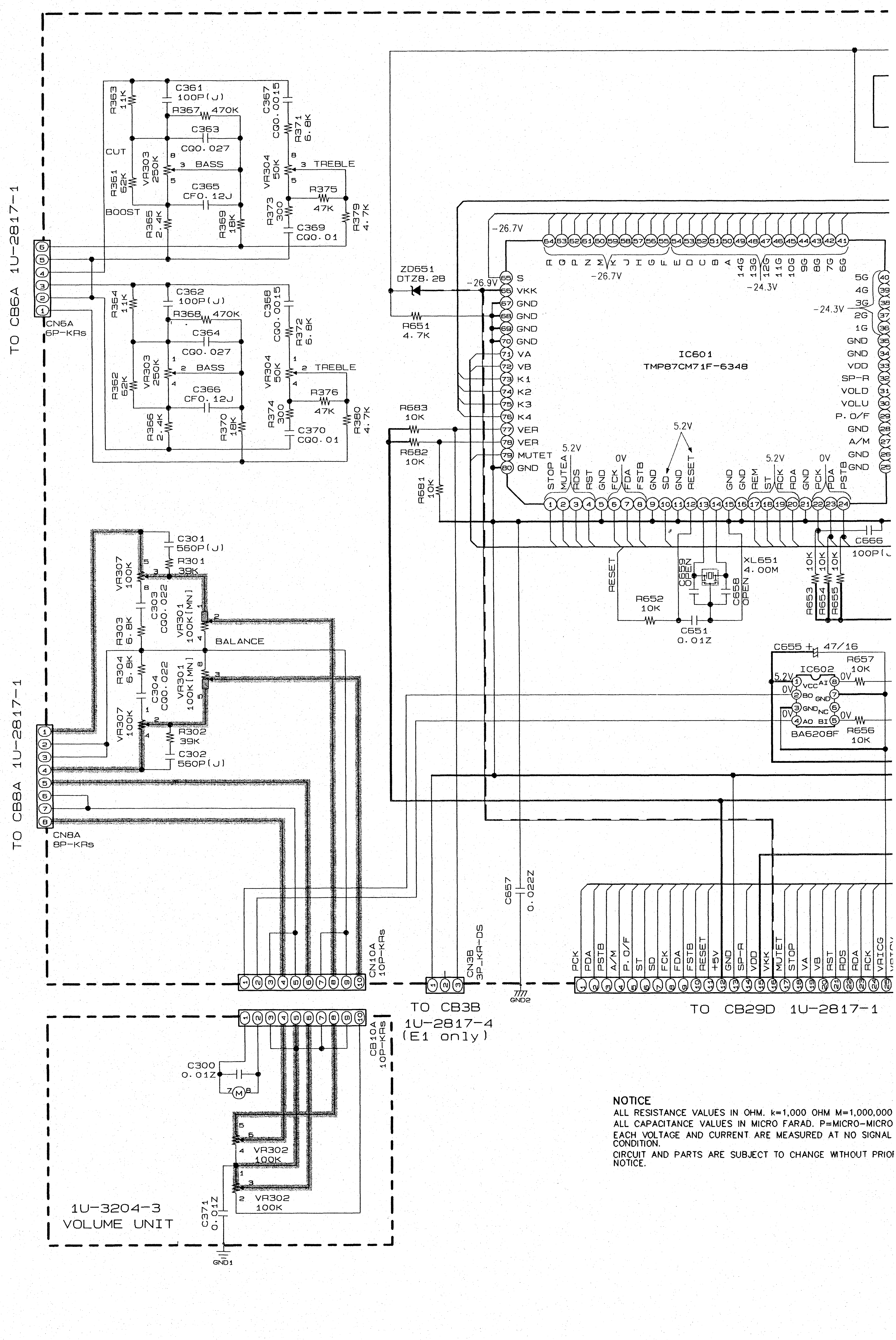
Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	1U-2817G	Main unit Ass'y		1
1-1		Main unit		
1-2		Power unit		
2	1U-2818	Tuner unit Ass'y		1
3	1U-3204	Display unit Ass'y		
3-1		Display unit		1
3-2		Display B unit		
3-3		Volume unit		
3-4		H/P unit		
3-5		Power SW unit		
4	411 1402 108	Chassis		1
5	104 0194 205	Foot Ass'y		4
6	412 4504 006	Radiator bracket		2
7	412 4340 202	Trans bracket		1
8	105 1312 102	Back panel		1
9	449 0033 036	Locking card spacer		2
10	412 3548 005	P.W.B catcher		1
11	412 2814 028	Card spacer (L=10)		4
12	417 0529 006	Power radiator		1
13	445 0048 003	Cord holder(L=76)		1
14	415 0824 006	Insulating sheet		1
15	477 0096 007	Push rivet		1
16	233 6194 002	Power trans.		1
17	144 2660 104	Front panel Ass'y	Black model	1
17	144 2660 117	Front panel Ass'y	Gold model	1
18	461 1034 005	Rubber sheet		1
19	113 9325 008	Series knob (A)	Black model	1
19	113 9325 024	Series knob (A)	Gold model	1
20	113 9326 007	Series knob (B)	Black model	1
20	113 9326 023	Series knob (B)	Gold model	1
21	113 9324 274	Function knob	Black model	1
21	113 9324 261	Function knob	Gold model	1
22	113 9323 000	Push knob (SP)	Black model	2
22	113 9323 039	Push knob (SP)	Gold model	2
23	412 9521 013	Volume plate		1
24	112 9123 139	Knob Ass'y(M)	Black model	1
24	112 9123 126	Knob Ass'y(M)	Gold model	1
25	113 9213 000	Power knob (P) Ass'y	Black model	1
25	113 9213 084	Power knob (P) Ass'y	Gold model	1
26	112 0739 001	Knob (MARU)	Black model	4
26	112 0739 027	Knob (MARU)	Gold model	4
27	461 0501 005	Rubber sheet		2
28	102 0601 006	Top cover	Black model	1
28	102 0601 019	Top cover	Gold model	1
29	414 0880 005	Safety cover	Black model	1
29	414 0880 018	Safety cover	Gold model	1
30	449 0139 105	Cover holder		4
31	009 0109 021	29P FFC cable		1
32	204 8341 004	Headphone jack	JK201	1
33	212 1140 009	Push switch (ESB6440)	SW302,303	2
34	211 9131 004	Variable resistor 100kohm	VR307	1
35	211 0842 017	Variable resistor 250kohm	VR303	1

Ref. No.	Part No.	Part Name	Remarks	Q'ty
36	211 0843 016	Variable resistor 50kohm	VR304	1
37	211 0841 018	Variable resistor 100kohm	VR301	1
38	211 0831 002	Variable resistor 100kohm	VR302	1
39	414 0740 006	Shield plate		1
40	499 2023 007	Remocon sensor	SBX1810-52	1
41	393 8020 007	VFD(14-BT-39GK)	FL401	1
42	212 5604 910	Tact switch		16
⚠ 43	212 1101 006	Power switch (TV-5)	SW401	1
45	216 0065 006	Front end		1
46	205 0847 004	3P antenna terminal(PAL/F)		1
47	254 6201 002	Electrolytic 7200μF/63V	C257,258	2
48	415 0234 007	Insulating sheet		4
49	271 0240 006	Transistor 2SA1491(O/P/Y)(Z)	TR323,324	2
50	273 0389 002	Transistor 2SC3855(O/P/Y)(Z)	TR321,322	2
⚠ 51	206 1075 030	Fuse(2.0A)	F401	1
⚠ 52	206 1075 043	Fuse(2.5A)	F402	1
53	214 0167 005	Relay(G5Z-2A)	RL451,452	2
54	214 0127 003	Relay(RY-12W)	RL453	1
55	204 8485 012	4P pin jack (S-GND)AU		2
56	204 8486 011	6P pin jack (S-GND)AU		1
57	205 0484 001	8P speaker terminal		1
58	417 0520 102	Sub radiator		1
⚠ 59	203 2349 009	2P inlet	CN2A	1
⚠ 60	203 3961 004	1P AC outlet	AC401	1
★ 61	445 8004 007	Wire clamper		1
⚠ ★ 62	203 5132 093	3P VH connector cord		1
★ 63	204 0389 019	6P PH connector cord		2
★ 64	204 2661 078	8P PH-PH connector cord		1
★ 65	204 2572 031	10P PH connector cord		1
★ 66	513 1642 002	NO. sheet		1
SCREWS & NUTS				
100	477 0262 006	Special screw		1
101	473 8007 009	Cup screw 3 × 12		8
102	473 7500 044	Screw 3 × 8 CBTS(P)-B		7
103	473 7015 018	Screw 3 × 8 CBTS(S)-B		14
104	473 7002 018	Screw 3 × 8 CBTS(S)-Z		16
105	473 8057 004	Screw 3 × 10 CBTS(B)-B		12
106	473 7004 016	Screw 4 × 6 CBTS(S)-Z		6
107	477 0263 005	3P. swelling screw	Black model	8
107	477 0263 018	3P. swelling screw	Gold model	8
108	473 7501 027	Screw 3 × 16 CBTS (P)-Z		1

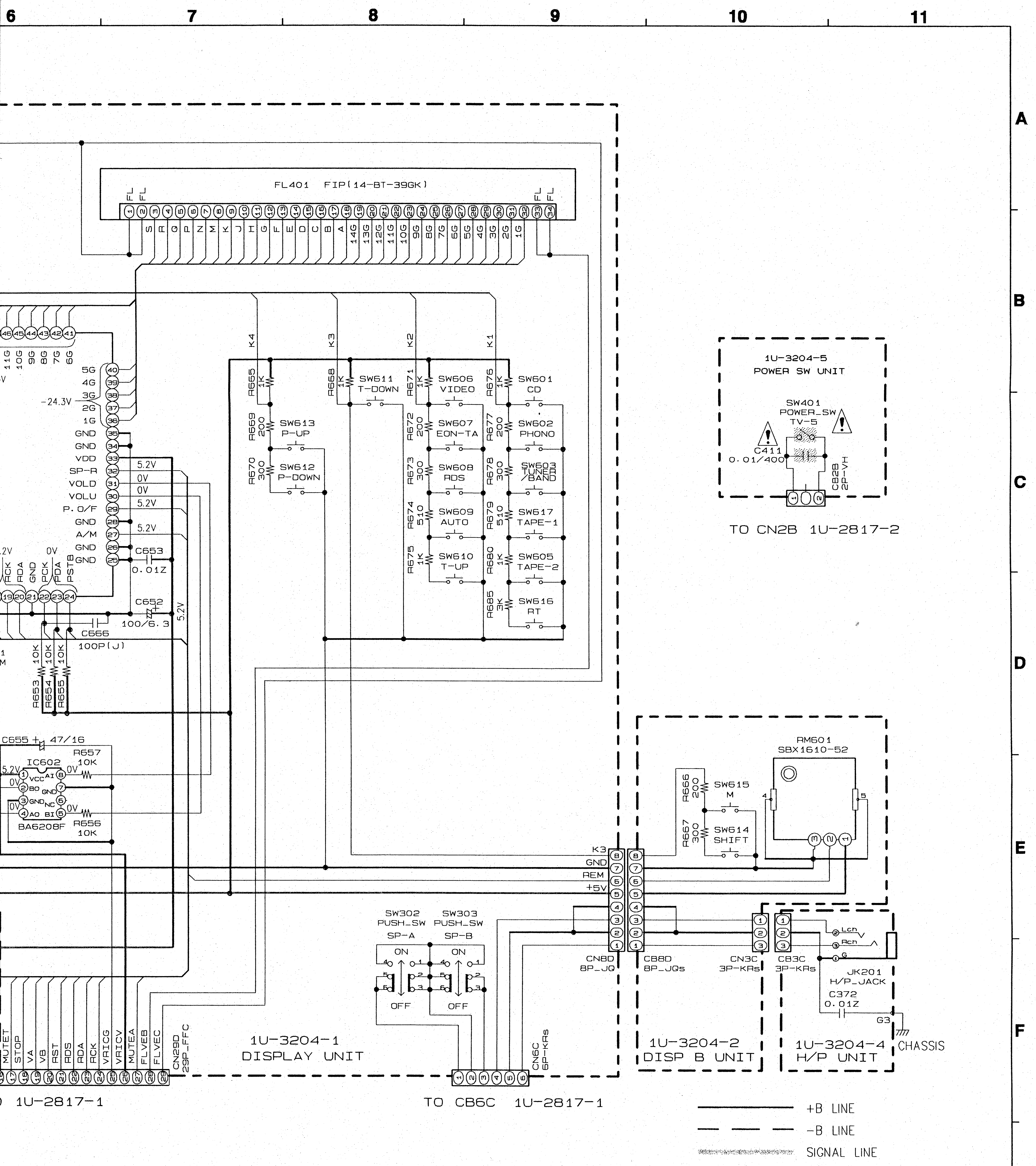
Ref. No.	Part No.	Part Name	Remarks	Q'ty
PACKING & ACCESSORIES (Not included EXPLODED VIEW.)				
201	505 0283 018	Envelope		1
202	511 3419 004	Instruction manual(8)		1
203	515 0671 724	S.S. list (EX)		1
204	231 1914 003	Loop antenna		1
205	395 0023 008	FM antenna Ass'y		1
206	399 0242 001	Remote control unit	RC-174	1
⚠ 207	206 2108 003	AC connector with plug		1
208	505 0131 050	Cabinet cover		1
209	503 1281 000	Cushion		2
210	501 2044 004	Carton case		1
211	517 1400 000	E2 POS label	Black model	1
211	517 1400 013	E2 POS label	Gold model	1
212	513 9111 001	Color label (gold)	Gold model	2
213	513 1389 006	Control card		1

SCHEMATIC DIAGRAMS (1/2)

1 2 3 4 5 6



NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.



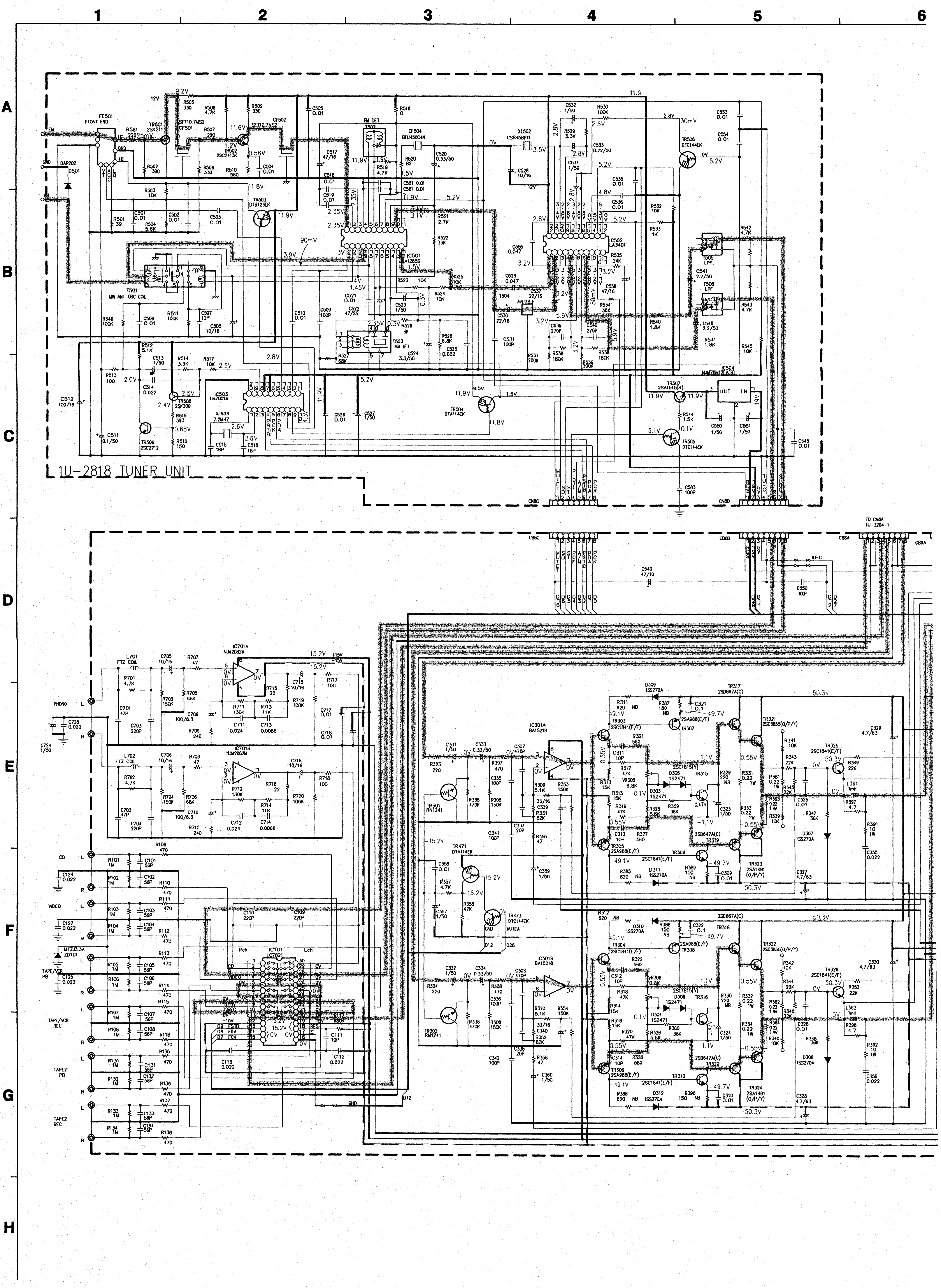
<=1,000 OHM M=1,000,000 OHM
O FARAD. P=MICRO-MICRO FARAD
MEASURED AT NO SIGNAL INPUT
TO CHANGE WITHOUT PRIOR

WARNING:
Parts marked with this symbol ⚠ have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is detective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SCHEMATIC DIAGRAMS (2/2)



NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:

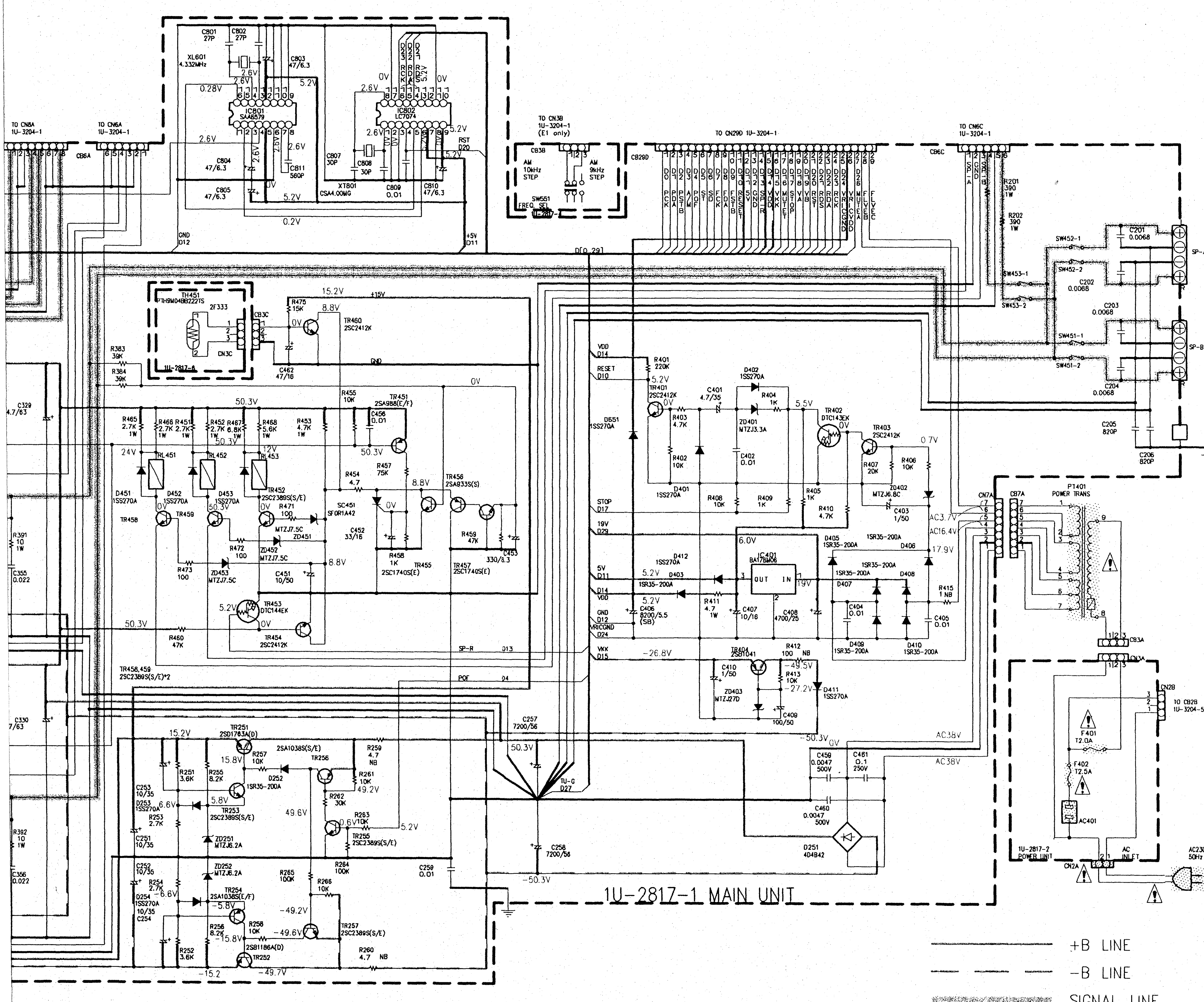
Parts marked with this symbol ⚠ ▩ have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

CAUTION:

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is detective.

WARNING:

DO NOT return the unit to the customer until the problem is located and corrected.



DENO-00310

DENON

Hi-Fi AM-FM Stereo Receiver

For Europe And U.K. Models

SERVICE MANUAL

MODEL DRA-585RD

AM-FM STEREO RECEIVER

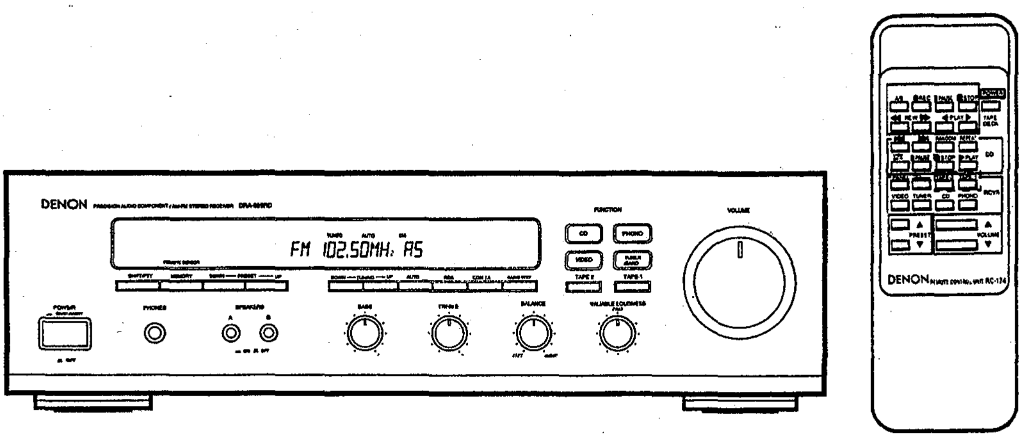


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NIPPON COLUMBIA CO., LTD.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

PRECAUTIONS FOR INSTALLATION
Install DRA-585RD always horizontally. And leave at least 10 cm of space between the unit and other component placed above.

VORKEHRUNGEN FÜR DIE AUFSTELLUNG
Stellen Sie den DRA-585RD stets waagerecht auf. Achten Sie ebenfalls darauf, daß ein Mindestabstand von 10 cm zwischen dem Gerät und der Komponente, die darüber gestellt wird, eingehalten wird.

PRECAUTIONS D'INSTALLATION
Le DRA-585RD doit toujours être installé horizontalement. Laisser au moins un espace de 10 cm entre cet appareil et tout autre composant qui serait placé au-dessus.

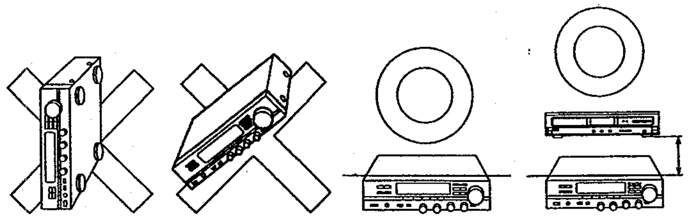
PRECAUZIONI PER L'INSTALLAZIONE
Installare il DRA-585RD sempre in posizione orizzontale, avendo cura di lasciare almeno 10 cm fra l'unità ed altri componenti posti al di sopra.

PRECAUCIONES PARA LA INSTALACION
Instale siempre el DRA-585RD en posición horizontal. Asegúrese también de dejar un espacio de por lo menos 10 cm entre esta unidad y el componente que sea colocado encima.

VOORZORGSMAATREGELEN VOOR INSTALLATIE
De DRA-585RD altijd horizontaal plaatsen. Laat ten minste 10 cm ruimte tussen dit apparaat en het andere component dat u erboven plaatst.

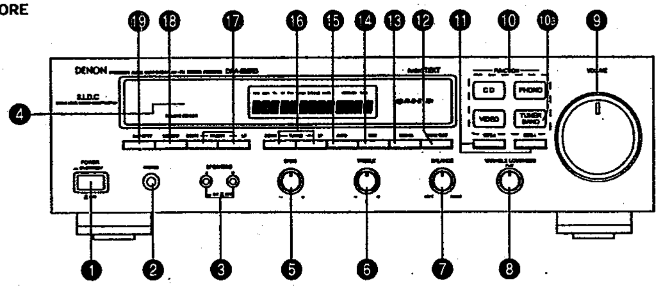
FÖRBEREDELSER FÖR INSTALLATION
Installera alltid DRA-585RD horisontellt. Lämna åtminstone 10 cm mellan denna apparat och en annan komponent som placeras ovanpå.

PRECAUÇÕES DURANTE A INSTALAÇÃO
Instale sempre o DRA-585RD em posição horizontal. E deixe pelo menos 10 cm de espaço entre esta unidade e o outro componente colocado acima.

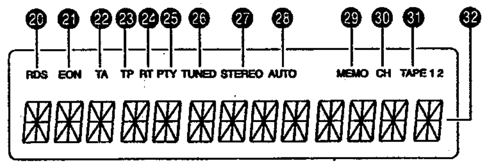


2

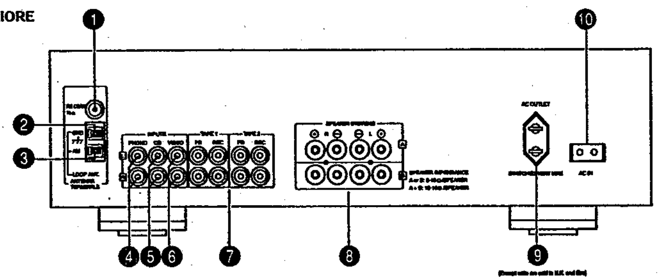
FRONT PANEL
VORDERSEITE
PANNEAU AVANT
PANNELLO ANTERIORE
PANEL ANTERIOR
VOORPANEEL
FRAMPANELEN
PAINEL FRONTAL



DISPLAY
ANZEIGE
AFFICHAGE
DISPLAY
VISUALIZADOR
DISPLAY
DISPLAYEN
MOSTRADOR

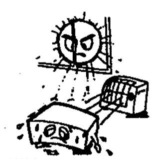


REAR PANEL
RÜCKSEITE
PANNEAU ARRIÈRE
PANNELLO POSTERIORE
PANEL POSTERIOR
ACHTERPANEEL
BAKSIDAN
PAINEL TRASEIRO

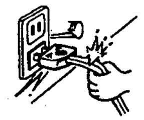


3

NOTE ON USE / HINWEISE ZUM GEBRAUCH / OBSERVATIONS RELATIVES A L'UTILISATION NOTE SULL'USO / NOTAS SOBRE EL USO / ALVORENS TE GEBRUIKEN / OBSERVERA OBSERVAÇOES SOBRE O USO



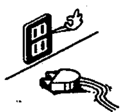
- Avoid high temperatures.
  Allow for sufficient heat dispersion when installed on a rack
- Vermeiden Sie hohe Temperaturen
  Beachten Sie, daß eine ausreichende Luftzirkulation gewährleistet sein muß, wenn das Gerät in einem Regal aufgestellt werden soll.
- Éviter des températures élevées.
  Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère
- Evitare di esporre l'unità ad alte temperature.
  Accertarsi che ci sia un'adeguata dispersione del calore quando l'unità è installata in un rack o in un mobile.
- Evite temperaturas elevadas.
  Asegúrese de garantizar una dispersión de calor suficiente al instalar la unidad en una consola.
- Vermijd hoge temperaturen.
  Zorg voor een degelijk hitteafvoer indien het apparaat op een rek wordt geplaatst.
- Undvik höga temperaturer
  Se till att det finns möjlighet till god värmeavledning vid montering i ett rack.
- Evite temperaturas altas.
  Quando instalar o equipamento numa prateleira coloque-o de modo a permitir uma dissipação suficiente do calor.



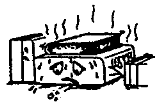
- Handle the power cord carefully.
  Hold the plug when unplugging the cord.
- Gehen Sie vorsichtig mit dem Netzkabel um.
  Halten Sie das Kabel am Stecker, wenn Sie es aus der Steckdose ziehen.
- Manipuler le cordon d'alimentation avec précaution.
  Tenir la prise lors du débranchement du cordon.
- Maneggiare con cura il cavo di alimentazione.
  Quando si scollega il cavo dalla presa, non tirare il cavo.
- Maneje el cable de alimentación con cuidado.
  Sostenga el enchufe cuando desconecte el cable de alimentación.
- Hanteer het netsnoer voorzichtig.
  Houd het snoer bij de stekker vest wanneer deze moet worden aan- of losgekoppeld.
- Hantera nätkabeln versamt.
  Håll i kontakten när du drar ut den. Dra inte i kabeln.
- Manuseie o cabo de alimentação com cuidado.
  Agarre na ficha para desligar o cabo de alimentação da tomada.



- Keep the set free from moisture, water and dust.
- Halten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Mantenere l'unità lontana da umidità, acqua e polvere.
- Mantenga el equipo libre de humedad, agua y polvo.
- Last geen vochtigheid, water of stof in het apparaat binnendringen.
- Utsätt inte apparaten för fukt, vatten och damm
- Mantenha o equipamento livre de humidade, agua ou pó



- Unplug the power cord when not using the set for long periods of time.
- Ziehen Sie das Netzkabel aus der Steckdose, wenn Sie das Gerät über einen längeren Zeitraum hinweg nicht verwenden.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Quando si prevede di non utilizzare l'unità per lunghi periodi di tempo, disinserire il cavo di alimentazione dalla presa.
- Desconecte el cable de alimentación cuando no utilice el equipo por mucho tiempo.
- Neem altijd het netsnoer uit het stopkontakt waneer het apparaat gedurende een lange periode niet wordt gebruikt.
- Dra ur nätkontakten om apparaten inte kommer att avändas på länge.
- Desligue o cabo de alimentação quando não utilizar o equipamento durante períodos prolongados.



*(For sets with ventilation holes)

- Do not obstruct the ventilation holes.
- Die Lüftungsschlitze dürfen nicht verdeckt werden.
- Ne pas obstruer les trous d'aération.
- Non ostruire i fori per la ventilazione.
- No tape las ranuras de ventilación.
- De ventilatieopeningen mogen niet worden beblokkeerd.
- Täpp inte till ventilationsöppningarna.
- Não tape os orifícios de ventilação.



- Do not let foreign objects in the set.
- Lassen Sie keinerlei Gegenstände in das Gehäuseinnere eindringen.
- Ne pas laisser des objets étrangers dans l'appareil.
- Non far cadere alcun oggetto all'interno dell'unità
- No inserte objetos extraños en el equipo.
- Laat geen vreemde voorwerpen in dit apparaat vallen.
- Se till att främmende föremål inte tränger in i apparaten.
- Evite deixar objectos estranhos sobre o aparelho.



- Do not let insecticides, benzene, and thinner come in contact with the set.
- Lassen Sie das Gerät nicht mit Insektiziden, benzenhaltigen oder anderen Verdünnungsmitteln in Berührung kommen.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- Evitare di utilizzare insetticidi, benzolo e solventi sull'unità.
- No vierta insecticidas, benceno o disolventes en la unidad.
- Laat geen insektenverdelgende middelen, benzine of verfverdunner met dit apparaat in kontakt komen.
- Se till at inte insektsmedel, bensen och thinner kommer i kontakt med apparatens hölje.
- Evite que insecticidas, benzina e diluente entrem em contacto com o equipamento.



- Never disassemble or modify the set in any way.
- Versuchen Sie niemals, das Gerät selbständig auseinanderzunehmen oder auf jegliche Art zu verändern.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Non smontare o modificare in alcun modo l'unità.
- Nunca desarme o modifique el equipo de ninguna manera.
- Nooit dit apparaat demonteren of op andere wijze modifiëren.
- Ta inte isär apparaten och försök inte byggs om den.
- Nunca desmonte ou modifique o equipamento de alguma forma.

Please check the following items are included with the main unit in the carton:

(1) Operating Instructions 1
(2) AM Loop Antenna 1
(3) FM Antenna 1
(4) Remote Control RC-174 1
(5) Batteries R6 (AA) 2
(6) AC Cord 1

Vergewissern Sie sich, daß folgende Teile vollständig im Lieferumfang enthalten sind:

(1) Bedienungsanleitung 1
(2) MW-Rahmenantenne 1
(3) UKW-Antenne 1
(4) Fernbedienungsgerät RC-174 1
(5) Trockenzellen-Batterien R6 (AA) 2
(6) Netzkabel 1

Veuillez verifier que les articles suivants sont bien joints à l'appareil principal dans le carton:

(1) Mode d'emploi 1
(2) Antenne-cadre AM 1
(3) Antenne FM 1
(4) Télécommande RC-174 1
(5) Piles de format R6 (AA) 2
(6) Cordon secteur 1

Controllare che le parti seguenti si trovino imballate con l'apparecchio nella scatola di spedizione:

(1) Istruzioni per l'uso 1
(2) Antenna AM a telaio 1
(3) Antenna FM 1
(4) Telecomando RC-174 1
(5) Batterie a secco R6 (AA) 2
(6) Cavo d'alimentazione 1

Verifique que los artículos siguientes hayan sido suministrados con la unidad principal:

(1) Instrucciones de operación 1
(2) Antena AM de cuadro 1
(3) Antena de FM 1
(4) Unidad de control remoto RC-174 1
(5) Pilas secas R6 (AA) 2
(6) Cable de alimentación 1

Controleer of de volgende accessoires bij het hoofdtoestel in de doos zijn verpakt:

(1) Gebruiksaanwijzing 1
(2) AM-raamantenne 1
(3) FM-antenne 1
(4) Afstandsbediening RC-174 1
(5) R6 (AA) droge cel batterij 2
(6) Netsnoer 1

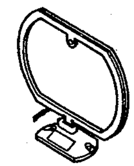
Kontrollera att följende tillbehör her packats ner i kartongen tillsammans med huvudenheten:

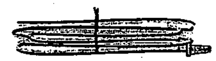
(1) Bruksanvisning 1
(2) Ramantenn för AM-bruk 1
(3) FM-antenn 1
(4) Fjärrkontroll RC-174 1
(5) R6 (AA) torrbatteri 2
(6) Nätkabeln 1

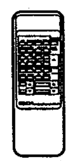
Verifique se os itens que se seguem estão incluídos na caixa de cartão com a unidade principal

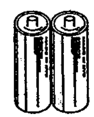
(1) Instruções de funcionamento 1
(2) Antena de quadro AM 1
(3) Antena FM 1
(4) Telecomando RC-174 1
(5) Pilhas R6 (AA) 2
(6) Cabo de alimentação 1

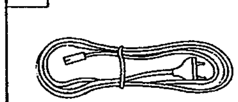
(1)


(2)


(3)


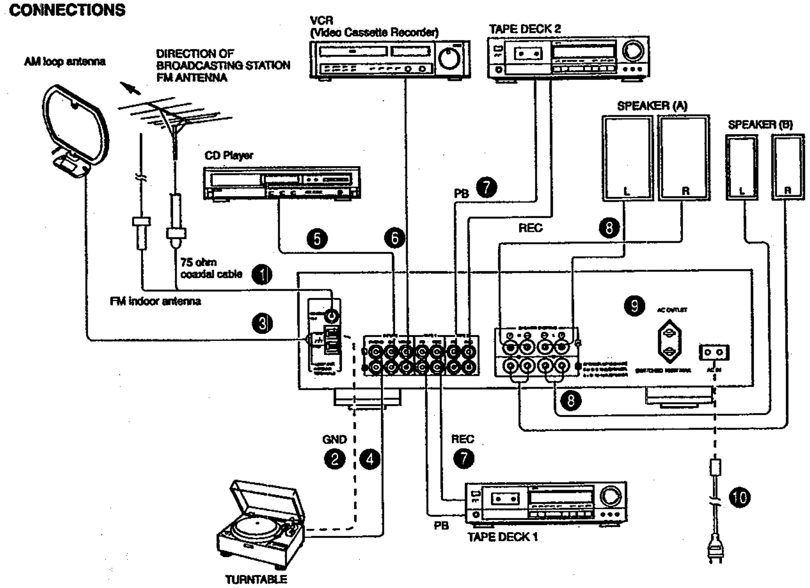
(4)


(5)


(6)


NUR FÜR EUROPÄISCHE MODELLE:
Konformitätserklärung
Die DENON Elektronik GmbH
Halskestr. 32
40880 Ratingen
erklärt als Hersteller/Importeur, daß das in dieser Bedienungsanleitung beschriebene Gerät den Technischen Vorschriften für Ton- und Fernseh-Rundfunkempfänger nach der Amtsblattverfügung 868/1989 (Amtsblatt des Bundesministers für Post und Telekommunikation vom 31.8.1989) entspricht.

CONNECTIONS



Notes on Connection
- Do not plug the power cord into the AC wall outlet until all connections have been completed.
- Make sure channels are correctly connected. Connect Left channels to Left channels and Right channels to Right channels. Follow the color markings of plugs and terminals to make sure mistakes are not made.
- Connect all pin-plugs securely, pushing them completely into the jacks incomplete connections will cause noise generation.
- Binding the connection cables to power cords, or running such cables close to power supply transformers will cause humming or noise, and should thus be avoided.

SPEAKER CONNECTION
Confirm polarity (+,-) and left and right channels (L, R). Connect the speaker pairs to the SPEAKER terminals A or B on the back panel. Connections must be made with power cord disconnected.

Preparing the cord
1. Peel of the sheath.
2. Twist the wires.



Connecting the front speaker terminals
1. Loosen by turning counterclockwise.
2. Insert the cord and tighten by turning clockwise.

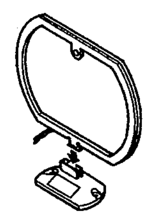


ANTENNA INSTALLATION

- **FM ANTENNA**
  The supplied indoor FM antenna can be used inside wooden houses for receiving local FM stations and other strong FM signals. Stretch out the end of the antenna and mount the antenna on the wall or ceiling where optimum reception is achieved. An indoor FM antenna may not consistently ensure stable reception, due to environment changes. In such cases, the indoor FM antenna should only be used temporarily until an outdoor FM antenna has been installed.
  When connecting an outdoor FM antenna, the use of 75 ohm coaxial cable (3C-2V, 6C-2V) is strongly recommended.

- **AM ANTENNA**
  Attach the supplied AM loop antenna even when using an outdoor AM antenna.
  Connect the leads to the AM and GND terminals.
  Also use the AM terminals for connecting an outdoor AM antenna (when making such a connection do not disconnect the AM loop antenna).
  Adjust the loop antenna to obtain optimum reception. Where broadcast stations are distant and only weak signals are received or where signals are blocked, it is best to install an outdoor AM antenna.

Assembling the Loop Antenna



- Remove the tie fastening the loop antenna's lead and connect the lead to the antenna terminals

Notes:
- Do not connect two FM antennas simultaneously.
- Even if an external AM antenna is used, do not disconnect the AM loop antenna.
- Make sure AM loop antenna lead terminals do not touch metal parts of the panel.

REAR PANEL (Refer to page 6 and page 7.)

1. **FM ANT (FM antenna terminals)**
   75-ohm coaxial cable can be connected to this terminal. For antenna connecting procedure, see ANTENNA INSTALLATION.

2. **GND (Grounding terminal)**
   The grounding wire of the turntable is connected here.
   • Hum or noise may be generated if the grounding wire is not connected.

3. **AM ANT (AM antenna terminals)**
   Connect the attached AM loop antenna.
   Connect to this terminal when a medium wave outdoor antenna is used.

4. **PHONO (Phono input terminals)**
   The output cord of the turntable is connected here.
   Since the input sensitivity of "PHONO" is extremely high, do not use the unit without the input pin cord. If used without this cord, the speakers may generate hum.

5. **CD**
   The output cord of the CD player is connected here.

6. **VIDEO**
   A VIDEO, such as a VCR or Video Disc may be connected here.

7. **TAPE-1, TAPE-2**
   Two tape decks or tape deck can be connected to these jacks for full-fledged playback, recording and tape dubbing operation.

8. **SPEAKER SYSTEMS (Speaker terminals)**
   Two pairs of speakers A and B can be connected to these terminals.

9. **AC OUTLET (AC power outlet)**
   This AC outlet is controlled by the power switch.
   (Except units are sold in U.K. and Eire).

10. **AC Inlet**
    Connect the included AC cord here.

CAUTION

> **Protective Circuit**
> This set is equipped with a high speed protective circuit.
> This circuit protects the internal circuitry from damage due to large currents flowing when the speaker jacks are not completely connected or when an output is generated by a short circuit.
> This protective circuit's operation cuts off the output to the speakers. In such a case, be sure to turn the power to the set off and check the connections to the speakers. Then turn the power on again. After muting for several seconds, the set will operate normally.

DESIGNATIONS AND FUNCTIONS OF PANEL CONTROLS (Refer to Page 3.)

FRONT PANEL

1. **POWER (Power ON-STANDBY/OFF Switch)**
   This switch turns the unit ON or OFF. There is a delay of a few seconds before the unit will operate after this power switch is turned ON. If the unit is turned OFF from the remote control, the unit will be in the STANDBY mode. When in the STANDBY mode, the unit can be turned ON with the power button on the remote control. If the unit will not be used for extended period, be sure to turn the unit OFF from the front panel power switch.
   NOTE: This unit includes a STANDBY protection feature. This feature is designed to prevent accidental turn-on from the STANDBY mode in the event of a power failure. Should AC power be disconnected and then reconnected when the unit is in STANDBY mode, the unit will return the STANDBY mode.
   To turn the unit ON from the STANDBY mode without the remote control, operate the front panel power switch four times. The unit will then operate normally.

2. **PHONES (Headphones jack)**
   Connect a pair of headphones (sold separately) to this jack for private listening.

3. **SPEAKERS (Speaker selector switches)**
   These switches are used to select speaker system A and B. No sound is heard through the speakers when both switches are reset to the (▲) position.

4. **REMOTE SENSOR (Remote control sensor)**
   This sensor receives the infra-red light transmitted from the wireless remote control unit.
   For remote control, point the wireless remote control unit towards the sensor.

5. **BASS (Bass control)**
   Use this control to adjust the low-range response. When the control is set to the center position, the frequency characteristic curve (below 1,000 Hz) is flat. Turn the control clockwise to increase the bass response and counterclockwise to decrease it.

6. **TREBLE (Treble control)**
   Use this control to adjust the high-range response.
   When the control is set to the center position, the frequency characteristic curve (above 1,000 Hz) is flat. Turn the control clockwise to increase the treble response and counterclockwise to decrease it.

7. **BALANCE (Balance control)**
   Use this control to balance the volume levels between left and right channels. The volume levels in both channels are equal when the control is set to the center position.

8. **VARIABLE LOUDNESS (Loudness control)**
   At low volumes, the human ear is less sensitive to low (BASS) and high (TREBLE) frequencies. Use this control to compensate for this deficiency when listening at low volume levels. Turn this control counter-clockwise until a natural balance of bass and treble sound has been restored.

9. **VOLUME (Volume control)**
   This knob is used to adjust the volume level of both channels.
   Turn the knob clockwise to raise the volume and counterclockwise to lower it.

10. **Input selector (Input selector buttons)**
    These buttons are used to select the audio input source.
    • PHONO: Press to play a record on a record player connected to the PHONO input jacks.
    • CD: Press to listen to a compact disc player or another component connected to the CD input jacks.
    • TUNER: Press to listen to FM or AM programs, when the set is not TUNER function.
    • VIDEO: Use when playing back the audio from a Hi-Fi video, video disc player or other component connected to the VIDEO terminal.

10. **BAND (Band selector button)**
    Press this button to select the FM or AM (MW) band, when the set is TUNER function.

11. **Tape selector (Tape selector/monitor buttons)**
    TAPE-1: Press the button once, TAPE-1 indicator will light up and then you can play tape source on TAPE-1 terminal.
    TAPE-2: Press this button once, TAPE-2 indicator will light up and then you can play tape or video source of TAPE-2 terminal.
    In this state you can copy TAPE-2 source to TAPE-1 terminal.
    Press again the button currently accessed, to play sources selected by input selector ❿, indicator goes out.

12. **RADIO TEXT button**
    This button is used for displaying radio text messages. When this button is pressed while the station currently tuned in is offering a radio text message service, the message scrolls on the display.
    This mode turns on and off each time the button is pressed. (Refer to page 13.)

13. **EON TA button**
    When a traffic announcement begins on a station in the same network as the station currently tuned in, that network station is automatically tuned in, and the previous station is tuned back in once the traffic announcement is over.
    This button is used to turn this mode on and off.
    If the station switches from the current station to the network station when this mode is on but the network station cannot be received properly due to week signals, the previous station is immediately tuned back in. (Refer to page 13.)

14. **RDS (RDS button)**
    This button is used for the RDS search (refer to page 12) and PTY search (refer to page 12) and TP search (refer to page 12) operations, and to input the station name (refer to page 11.)

⓯ **AUTO (Tuning mode button)**
This switches between auto and manual tuning.
Auto tuning: When the UP button is pressed, the radio is tuned automatically to a higher frequency. Press the DOWN button to tune to a lower frequency. Use this position to eliminate noise when no signals or weak signals are being received.
Manual tuning: In this position, the radio can be tuned manually. Reception is automatically monaural when in the manual mode.

⓰ **TUNING (Tuning buttons)**
Use these to change the received frequency to a higher frequency (UP) or a lower frequency (DOWN).
When writing station names, use these buttons to select the letters. (Refer to Page 11.)

⓱ **Preset (Preset station buttons)**
These buttons are used for storing stations or recalling stations which have been preset. Using the SHIFT/PTY button you can preset a total of 40 FM or AM stations into preset channels.
Once a radio has been memorized, the same station can later be tuned in instantly simply by recalling the corresponding preset channel with PRESET UP or DOWN button.

⓲ **MEMORY (Memory button)**
This switch is used to store the desired radio station to a memory.

⓳ **SHIFT / PTY button**
Use this button to select the memory blocks, A (1 to 8), B (1 to 8), C (1 to 8), D (1 to 8) or E (1 to 8).
For PTY search, use this button to select the program type.
When writing station names, use this button to set the writing position.

NOTES
- This receiver has a full back-up system. When the power is turned on, the INPUT SELECTOR buttons are set to the last mode set before the power was turned off.
- When using this receiver in close proximity to video equipment (TV, VCR, VDP, etc.) noise may be generated in AM broadcasts. To avoid this, keep the receiver as far away from other video components as possible, or place the AM loop antenna where noise is reduced. If the noise is not reduced, turn off the power of the video components when listening to AM broadcasts.

DISPLAY

⓴ **RDS indicator**
This lights when receiving RDS broadcasts, and flashes during the RDS search operation.

㉑ **EON indicator**
This lights when receiving EON information.

㉒ **TA indicator**
This lights when receiving traffic announcements.

㉓ **TP indicator**
This flashes during the TP search operation and lights when TP stations are tuned in.

㉔ **RT indicator**
This lights when the RADIO TEXT button is pressed.

㉕ **PTY indicator**
This flashes during the PTY (Programme Type) search operation.

㉖ **TUNED indicator**
This lights when a station is properly tuned in.

㉗ **STEREO indicator**
This lights when receiving stereo broadcasts. It remains off when receiving AM broadcasts.

㉘ **AUTO indicator**
This indicates the tuning mode. It lights in the auto mode and remains off in the manual mode.

㉙ **MEMO indicator**
This indicator lights for approximately 10 seconds when the MEMORY button has been pressed and a station can be stored on a PRESET CHANNEL button.
This flashes continuously during the auto memory operation.

㉚ **CH indicator**
This lights when the preset channel number and shift mode (A, B, C, D or E) are displayed.

㉛ **TAPE-1/TAPE-2 indicator**
The TAPE-1 indicator lights when the TAPE-1 source is selected with the tape selector buttons. The TAPE-2 indicator lights when the TAPE-2 source is selected.

㉜ **Multi function display**
This displays the frequency, station name, program type, etc.

USING THE VARIOUS FUNCTIONS

1. **Using the auto preset memory function**
This function automatically stores the FM stations which can be received in the area in which the set is being used in the preset memory. Use this function so that the RDS functions can be used more effectively. Also note that the channel memories can be changed at will even after the preset stations have been stored with this function.

Operation
1. Connect the FM antenna and set it so that FM stations can be received.
2. Press the POWER button to turn on the power while holding in the MEMORY button [illegible].
3. Searching begins automatically, and stations are stored in the preset memory in order, beginning from channel A1. (The operation automatically stops once 40 stations have been set in the memory.)

2. **Storing new stations at the preset channels**
The reception frequency, RDS service information, Tuning mode and input characters can be stored at the different channel memories.
When this operation is performed, the station already stored in that channel memory using the auto preset memory function is cleared.

Operation
1. Press the MEMORY button [illegible]. (The MEMO indicator flashes.)
2. Use the SHIFT/PTY button [illegible] to select the block, A to E.
3. Use the PRESET UP or DOWN button [illegible] to select the channel at which the station is to be stored.
4. Press the MEMORY button [illegible] again to store the station in the memory.

3. **Recalling preset channels**
Use the following operation to recall preset channels:

Operation
1. Use the SHIFT/PTY button [illegible] to select the block, A to E.
2. Use the PRESET UP or DOWN button [illegible] to recall the station stored in the memory.
If the PRESET UP or DOWN buttons are pressed without pressing the SHIFT/PTY button [illegible], the stations are recalled in the order A1 to A8, B1 to B8, and so on through E8.

4. **Inputting characters**
Any characters can be input (up to 8 characters).
The input characters can be stored at the preset channels.

Operation
1. Press the RDS button [illegible] four times.
(The cursor flashes at the first place.)

Flashes

2. Use the TUNING UP or DOWN button [illegible] to select the character for the first place.
(The selected character flashes.)

R
Flashes

3. Press the SHIFT/PTY button [illegible] to move the cursor to the next place.
(The cursor flashes at the second place).

R_
Flashes

4. Repeat steps 2 and 3 above to input up to 8 characters.

ROCK-CH4
Flashes

5. The characters are set five seconds after the input procedure is finished. The input characters can be stored in the memory.
To keep the input characters, be sure to store them in a channel memory.

6. Clearing characters
1. Recall the character you want to clear.
2. Press the RDS button [illegible] 4 times until the character at the first place flashes.
3. Then press the SHIFT/PTY button [illegible] for at least 2 seconds. The current character will then be cleared.

Table of characters
The characters are input in the order shown to the right. Use the TUNING buttons [illegible] to select the desired characters.

→ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z →
→ 0 1 2 3 4 5 6 7 8 9 [\ ] - % ' ( ) * + , - . / : SPACE →

Using the RDS functions (for FM only)

1. RDS search

Use this to automatically search and stop at stations offering RDS services.

Operation

1. Press the RDS button ● once.

RDS SEARCH

2. Press the PRESET UP or DOWN button ●.
   (Searching begins.)

RDS SEARCH (RDS — Flashes; Flashes)

3. Searching begins again if the PRESET UP or DOWN button ● is pressed while the RDS indicator is flashing.

FM 101.30MHz (RDS — Flashes)

4. If no other RDS station is found when all the frequencies are searched, "NO RDS" is displayed.

2. PTY Search

Use this to automatically search and stop at stations broadcasting the specified programme type (PTY).

Operation

1. Press the RDS button ● twice.

PTY SEARCH

2. Use the SHIFT/PTY button ● to select the programme type.

INFORMATION

3. Press the PRESET UP or DOWN button ●.
   (Searching begins.)

PTY SEARCH (PTY — Flashes; Flashes)

4. Searching begins again if the PRESET UP or DOWN button ● is pressed while the PTY indicator is flashing.

FM 105.70MHz (PTY — Flashes)

5. If no other station broadcasting the designated programme type is found when all the frequencies are searched, "NO PROGRAMME" is displayed.

List of PTY (Programme Type) displays:

1.	NEWS	9.	VARIED
2.	AFFAIRS	10.	POP MUSIC
3.	INFORMATION	11.	ROCK MUSIC
4.	SPORT	12.	M.O.R. MUSIC
5.	EDUCATION	13.	L-CLASSICS (Light classics)
6.	DRAMA	14.	S-CLASSICS (Serious classics)
7.	CULTURE	15.	OTHER MUSIC
8.	SCIENCE	31.	ALARM

NOTE: ALARM cannot be selected during the PTY search operation.

3. TP Search

Use this to automatically search and stop at stations which broadcast traffic announcements (even if the station is not currently broadcasting a traffic announcement).

Operation

1. Press the RDS button ● three times.

TP SEARCH

2. Press the PRESET UP or DOWN button ●.
   (Searching begins.)

TP SEARCH (TP — Flashes; Flashes)

3. Searching begins again if the PRESET UP or DOWN button ● is pressed while the TP indicator is flashing.

FM 103.50MHz (TP — Flashes)

4. If no other TP station is found when all the frequencies are searched, "NO PROGRAMME" is displayed.

4. RADIO TEXT

When the RADIO TEXT button ● is pressed while the station currently tuned in is offering a radio text message service, the message scrolls on the display.
(The RT indicator lights when the RADIO TEXT button is pressed.)

RT RADIO TEXT

RT TEXT BROADCAS

("NO TEXT DATA" is displayed if no radio text message is being broadcast.)

5. EON TA

When an RDS station is broadcasting RDS information on other stations within the same network and a traffic announcement begins on another station in the same network based on this information (EON = Enhanced Other Network), that network station is automatically tuned in. The previous station is tuned back in once the traffic announcement is over.

Operation

1. Press the EON TA button ●.
   (The EON TA indicator lights.)

EON TA WDR 3
(STATION A)

(When a traffic announcement starts, that station is automatically tuned in.)

EON TA WDR 2
(STATION B)

(When the traffic announcement is over, the previous station is tuned back in.)

EON TA WDR 3
(STATION A)

RDS Emergency Alarm

"ALARM" will flash on the display when the unit receives the Emergency Programme Type Code (PTY31) from an RDS station. This feature may not operate properly if the signal from the RDS station is too weak or is subjected to interference.
It is not possible to select the "ALARM" display from the PTY search mode.

NOTE:

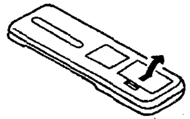
1. Be sure to turn the EON TA mode off when recording programmes.
2. In the EON TA mode, if the station is switched from the current station to another station in the network but the signals of that network station are weak and it cannot be tuned in properly, "WEAK SIGNAL" is displayed and the original station is immediately tuned back in.
3. In the EON TA mode, the station does not switch to another station in the network if the current station is broadcasting a traffic announcement.
4. Since the RDS services offered differ from station to station, some RDS functions may not operate for some stations, but this is not a malfunction.

PLAYBACK USING THE REMOTE CONTROL

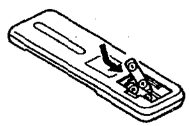
The accessory RC-174 remote control unit is used to control the RECEIVER from a distance.

(1) **Inserting the dry cell batteries**

1. Remove the rear cover on the remote control unit.



2. Insert two size "AA" (R6) dry cell batteries as shown in the diagram on the battery supply unit.

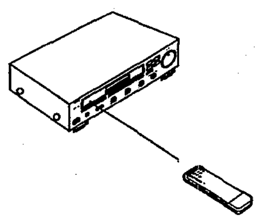


3. Replace the rear cover.



Notes on Use of the Batteries
- The remote control unit uses size "AA" (R6) dry cell batteries.
- The batteries will need to be replaced approximately once a year. This will depend upon how often the remote control is used.
- If, in less than a year from the time new batteries were inserted, the remote control fails to operate the receiver from a near-by position, it is time to replace the batteries.
- Insert the batteries properly, following the diagram on the remote control battery supply unit, and making sure to align the plus and minus sides of each battery.
- Batteries are prone to damage and leakage. Therefore:
  - Do not combine new batteries with used ones.
  - Do not combine different types of batteries.
  - Do not jumper the opposite poles of the batteries, expose them to heat or break them open, or put them into open fire.
- When the remote control is not to be used for a long period of time, remove the batteries from the unit.
- If the batteries have leaked, remove any battery fluid from the inside of the battery supply unit by wiping it out thoroughly and insert new batteries.

(2) **Directions for use**



- Operate the remote control unit while pointing it towards the remote control sensor on the receiver as shown in the diagram left.
- The remote control unit can be used at distances up to about 8 meters in a straight line from the receiver. This distance will decrease if there are obstructions blocking the infra-red light transmission or if the remote control unit is not directed straight at the receiver.

Note on Operation
- Do not press the operating buttons on the receiver and the remote control unit at the same time. This will cause misoperation.
- Operation of the remote control unit will become less effective or erratic if the infrared remote control sensor on the receiver is exposed to strong light or if there are obstructions between the remote control unit and the sensor.
- In case you operate your VCR, TV or other components by remote control, do not operate buttons on two different remote control units at the same time. This will cause misoperation.

Besides being able to operate the DRA-585RD receiver with this remote control unit, you can also operate a DENON cassette deck and CD player from this handy full-system remote control unit.

Remote Control Section
Full-system Remote Control Unit
The full-system remote control unit operates all major functions of the receiver such as function switching, volume control, and preset station selection. But that's not all! The same control pad can also control the major functions of a DENON CD player and cassette deck to create a remarkably ergonomic and versatile DENON system with all the quality sound reproduction that the devoted audiophile expects.

Remote Control Unit RC-174 supplied with DRA-585RD

DECK

▶ PLAY	PLAY button
◀ PLAY (REV)	PLAY (REV) button
■ STOP	STOP button
◀◀ REW	REWIND button
FF ▶▶	FF button
● REC	Refer to the operating instructions of your DENON tape deck.
❚❚ PAUSE	
A/B W-DECK	A/B DECK SELECT button

PANEL button

The display switches between the frequency, manual characters, station name, programme type and time each time this button is pressed. Station names, programme types and the time are only displayed when receiving RDS stations.

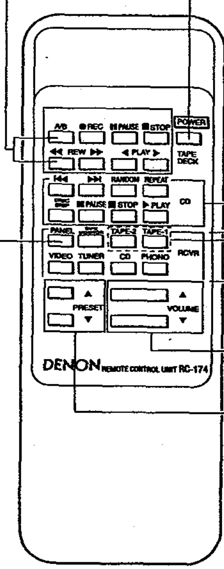
The following may appear on the display for some stations, but this is not a malfunction:

"NO PTY": This is an RDS broadcast, but the programme type (PTY) is not being broadcast.

"NO PS": An RDS broadcast is being received, but the PS (Programme Service name or station name) is not being received due to weak signals, etc.

"NO TIME DATA": This is displayed when the station currently tuned in is not broadcasting time data, and may be displayed for one minute after the power is turned on even when the station currently tuned in is broadcasting time data.

(The PANEL button only operates when the function is set to the TUNER mode.)



POWER button

CD

▶ PLAY	PLAY button
■ STOP	STOP button
◀◀	Reverse Track Search button
▶▶❙	Forward Track Search button
❚❚ PAUSE	PAUSE button
REPEAT	REPEAT button
RANDOM	RANDOM button
DISC SKIP	DISC SKIP button

TAPE SELECTOR buttons
INPUT SELECTOR buttons
VOLUME buttons (▲▼)
PRESET buttons (▲▼)

- The RC-174 Remote Control Unit can control CD players and cassette decks made by DENON.
- Note the operation may not be possible for some models.
- Buttons are conveniently separated into groups, each group controlling one specific component. The groups are RECEIVER; CD and DECK.

For details on operating other components, refer to the instruction manuals for the CD player and/or cassette deck.

CAUTION:
- If the power is turned off with the remote control unit, the receiver is switched to the power stand-by state. If you are to be absent for a long period of time, be sure to turn the power off using the POWER switch on the receiver.
- A part of 1st digit of fluorescent display light while the receiver is in the power stand-by state.
- You may experience erratic operation of the remote control unit if it is operated in fluorescent light and direct sunlight, in particular if this light strikes the remote control sensor on the receiver. However, this is not a malfunction, and if this should happen, protect the sensor against such light.

TROUBLESHOOTING

1. Have all connections been made PROPERLY?
2. Have you followed all operational instructions correctly?
3. Check speaker and the turntable systems for proper operation.

When your unit does not seem to be operating correctly, first check the items in the following table. If the symptom does not correspond to any of the problems as shown below, turn off the power sources immediately and contact your DENON dealer.

Problem	Cause	Remedy
FM AND AM RECEPTION		
Radio program can not be received.	• Antenna connection is wrong. • A signal strength is weak.	• Check the connection. • Check the antenna installation.
Noise is reproduced.	• A signal strength is weak. • Automobile ignition noise interferes with reception. • Other electrical equipment interferes with reception.	• Install an outdoor antenna. • Keep the antenna away from the street. • Keep the equipment away from this set, or turn off the power of the other equipment.
The preset frequencies are erased.	• The memory back-up term (about 1 month) passed.	• Preset again.
In automatic tuning, the frequency doesn't stop at the radio station.	• A signal strength is weak.	• Use manual tuning.
In automatic tuning, it stops at the one step lower or higher frequency than the radio station.	• Noise or strong signal strength is received.	• Use manual tuning for optimum reception.
PLAYBACK OF THE AUDIO EQUIPMENTS		
No sound is produced with power on.	• Input and speaker cords connection are wrong. • Speaker switch is off. • The INPUT SELECTOR buttons are in wrong position. • The protective circuit is operating. • The fuse has blown out.	• Check the connection. • Turn on speaker switch. • Check these position. • Turn the power off once, check the connections to the speakers, then turn the power on again. • Ask your dealer, or the nearest DENON representative.
Audible hum when playing records.	• The input and grounding cords connection of the turntable are wrong. • The cords connection of the cartridge are wrong. • The interference from the nearby TV or radio transmission antenna	• Check the connection. • Check the connection. • Ask your dealer, or the nearest DENON representative.
Howling is produced when the volume control is turned up too high while playing records.	• The vibrations and sounds transmit from the speakers to the turntable.	• Insulate the vibrations, or keep the speakers away from the turntable.
Cracking noise is produced when playing records.	• The record is stained with dust. • The stylus tip of the cartridge is stained with the dust. • The cartridge is defective.	• Clean the record. • Clean the stylus tip. • Try the other cartridge.

SPECIFICATIONS

AMPLIFIER SECTION

Continuous Power Output (DIN):	90 W + 90 W (4 ohms, 1 kHz)	
Power Bandwidth (IHF):	10 Hz – 40 kHz (T.H.D. 0.15% both channels driven into 8 ohms)	
Total Harmonic Distortion:	0.03% (-3 dB at rated output, 8 ohms)	
Frequency Response:	PHONO RIAA Standard Curve (Recording Output)	
	MM	20 Hz – 20 kHz ± 0.5 dB
	CD, VIDEO, TAPE 1, TAPE 2	20 Hz – 50 kHz ± 1.5 dB (at 1 W)
Input Sensitivity and Impedance:	PHONO MM	2.5 mV 47 kohms
	CD, VIDEO, TAPE 1, TAPE 2	150 mV 25 kohms
Maximum Input Level: (at 1 kHz)	PHONO MM	120 mV
Signal to Noise Ratio (IHF-A):	PHONO MM	78 dB (at 5.0 mV input)
	CD, VIDEO, TAPE 1, TAPE 2	98 dB
Tone Controls:	BASS	± 10 dB at 100 Hz
	TREBLE	± 10 dB at 10 kHz
Loudness Control Effect:	Variable Loudness at maximum position 50 Hz/10 kHz, + 10 dB/+5 dB	

TUNER SECTION

[FM] (note: μV at 75 ohms, 0 dBf = 1 x 10^{-15} W)

Receiving Range:	87.5 – 108 MHz	
Usable Sensitivity:	0.9 μV (10.3 dBf)	
Signal to Noise Ratio (IHF-A):	MONO	82 dB
	STEREO	78 dB
Image Rejection:	65 dB	
Selectivity (± 300 kHz):	55 dB	
Frequency Response:	30 Hz – 15 kHz $^{+0.2}_{-1.5}$ dB	
Stereo Separation (at 1 kHz):	40 dB	

[AM]

Receiving Range:	522 – 1611 kHz
Usable Sensitivity:	18 μV
Signal to Noise Ratio:	55 dB

General

Power Supply:	AC 230 V 50 Hz
Power Consumption:	190 W
Power Outlet:	SWITCHED 100 W
Dimensions:	434 mm (W) x 129 mm (H) x 310 mm (D)
Weight:	6.7 kg

REMOTE CONTROL UNIT RC-174

Remote control system:	Infrared pulse system
Power supply:	3V DC Two size "AA" (R6) dry cell batteries
External dimensions:	60 mm (W) x 175 mm (H) x 18 mm (D)
Weight:	120 g (includes batteries)

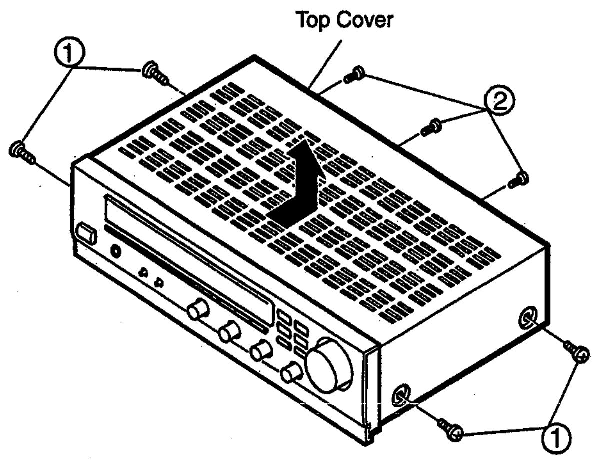
Design and specifications are subject to change without prior notice.

DISASSEMBLY

(To reassemble reverse disassembly)

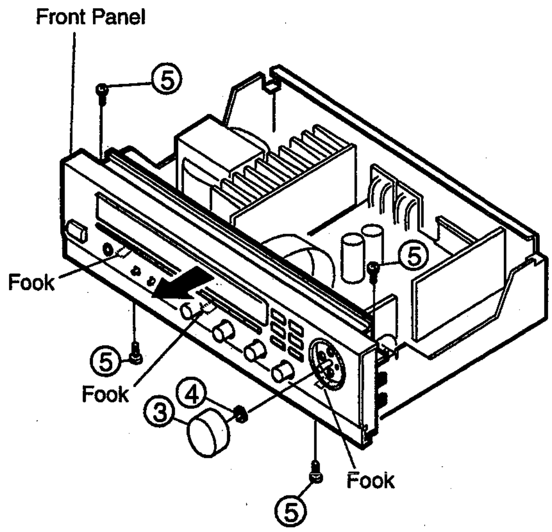
1. Top Cover

(1) Remove 4 screws ①.
(2) Remove 3 screws ②.



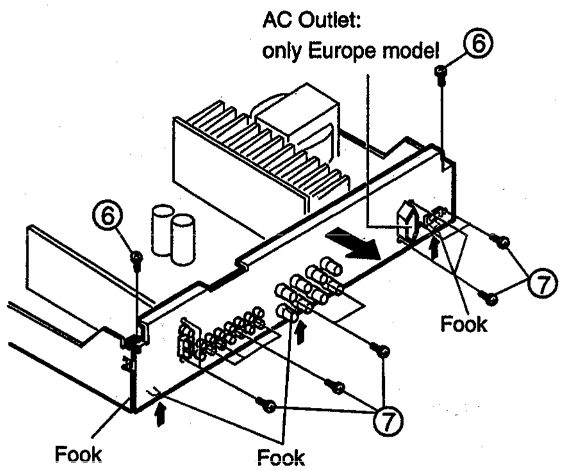
2. Front Panel

(1) Pull out Volume knob ③.
(2) Remove nut ④.
(3) Remove 4 screws ⑤ and undo hooks at 3 places.

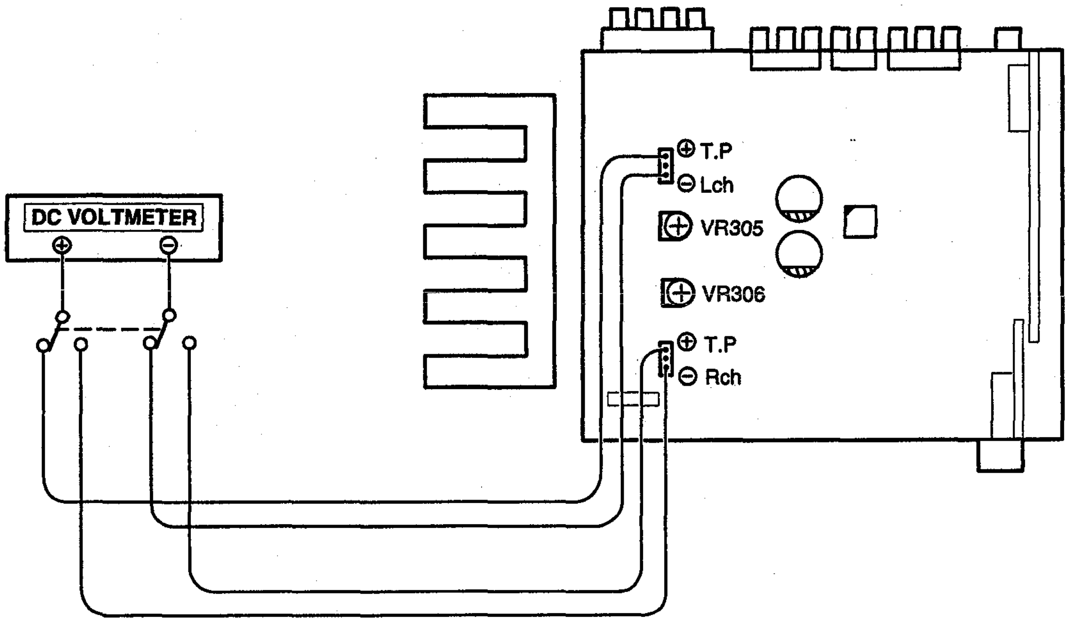


3. Rear Panel

(1) Remove 2 screws ⑥ and 12 fixing screws ⑦.
(2) Remove hooks at 3 places in arrow direction (↑).



METHOD OF ADJUSTMENTS



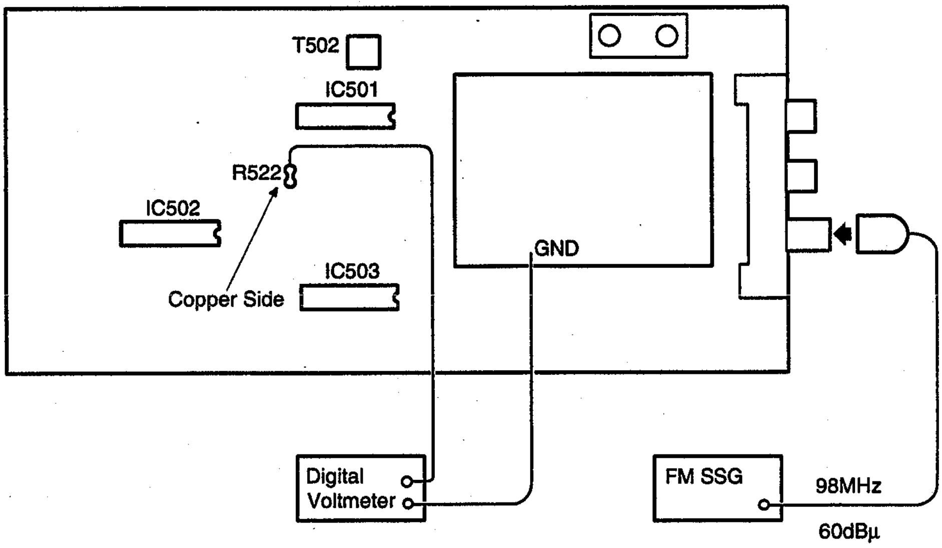
IDLING CURRENT

(1) Set controls as follows.
POWER Switch → off (■)
VOLUME Control → 0 (min.)
SPEAKERS → off (■)
Temperature → 15°C ~ 30°C (59°F ~ 86°F)
VR305 and VR306 of the 1U-2817 (Main Unit) → MIN. (↶)

(2) Connect DC Voltmeter to the T.P Lch and T.P Rch of the 1U-2817.
(3) Turn the Power Switch on and rotate VR305 clockwise so that the DC Voltmeter reads 3 mV ±0.2 mV DC at the T.P Lch. Follow the same procedure to VR306 for T.P Rch.
(4) Warm up for three minutes, then readjust VR305 and VR306 so that the DC Voltmeter reads 3 mV ±0.5 mV DC.
(5) Warm up for 10 minutes, then readjust VR 305 and VR306 so that the DC Voltmeter reads 2.7 mV ±0.5 mV DC.

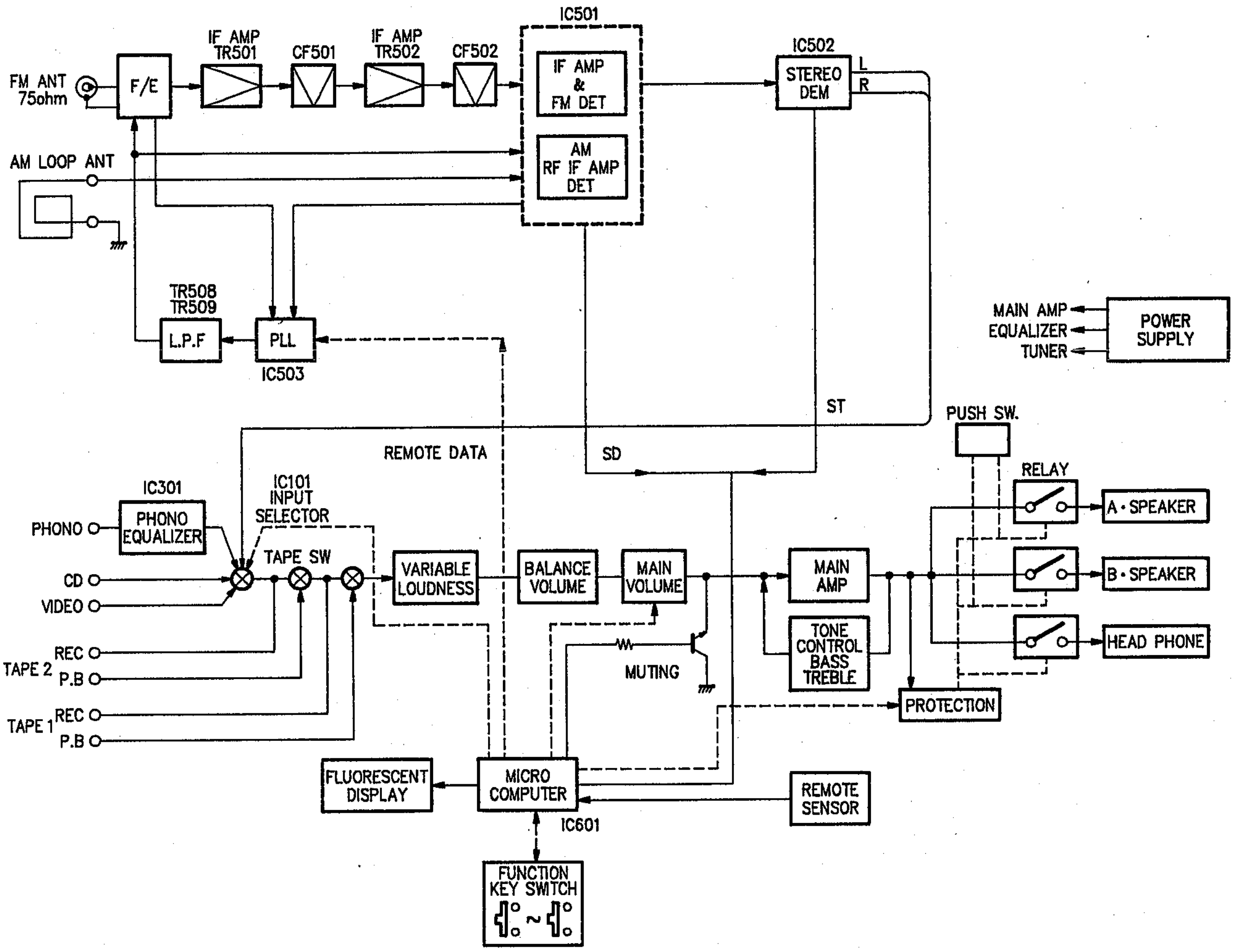
CONNECTINON DIAGRAM OF MEASURING INSTRUMENTS

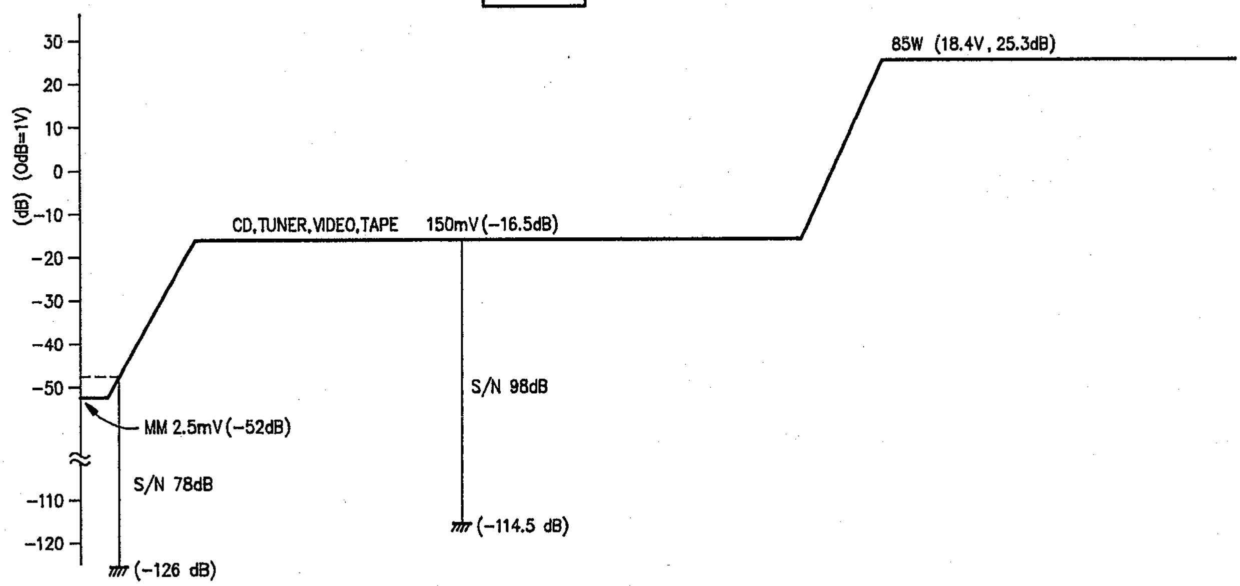
● FM SECTION



Adjust T502, Potential difference across R522 should be within 50mV.

BLOCK/LEVEL DIAGRAM





NOTE FOR PARTS LIST

- Part indicated with the mark " ◉ " are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:
Parts marked with this symbol ⚠ ▓▓ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

• Resistors

Ex.: RN — Type; 14K — Shape and performance; 2E — Power; 182 — Resistance; G — Allowable error; FR — Others

RD : Carbon	2B : 1/8W	F : ±1%	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : ±2%	NL : Low noise type
RS : Metal oxide film	2H : 1/2W	J : ±5%	NB : Non-burning type
RW : Winding	3A : 1W	K : ±10%	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : ±20%	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

*** Resistance**

1 8 2 ⇒ 1800 ohm = 1.8 kohm
- 2 — Indicates number of zeros after effective number.
- 1 8 — 2-digit effective number.

• Units: ohm

1 R 2 ⇒ 1.2 ohm
- 2 — 1-digit effective number.
- 1 R — 2-digit effective number, decimal point indicated by R.

• Units: ohm

• Capacitors

Ex.: CE — Type; 04W — Shape and performance; 1H — Dielectric strength; 2R2 — Capacity; M — Allowable error; BP — Others

CE : Aluminum foil electrolytic	0J : 6.3V	F : ±1%	HS : High stability type
CA : Aluminum solid electrolytic	1A : 10V	G : ±2%	BP : Non-polar type
CS : Tantalum electrolytic	1C : 16V	J : ±5%	HR : Ripple-resistant type
CQ : Film	1E : 25V	K : ±10%	DL : For charge and discharge
CK : Ceramic	1V : 35V	M : ±20%	HF : For assuring high frequency
CC : Ceramic	1H : 50V	Z : +80% −20%	U : UL part
CP : Oil	2A : 100V		C : CSA part
CM : Mica	2B : 125V	P : +100% −0%	W : UL-CSA type
CF : Metallized	2C : 160V		F : Lead wire forming
CH : Metallized	2D : 200V	C : ±0.25pF	
	2E : 250V	D : ±0.5pF	
	2H : 500V	= : Others	
	2J : 630V		

*** Capacity (electrolyte only)**

2 2 2 ⇒ 2200μF
- 2 — Indicates number of zeros after effective number.
- 2 2 — 2-digit effective number.

• Units: μF.

2 R 2 ⇒ 2.2μF
- 2 — 1-digit effective number.
- 2 R — 2-digit effective number, decimal point indicated by R.

• Units: μF.

*** Capacity (except electrolyte)**

2 2 2 ⇒ 2200pF = 0.0022μF
- 2 (More than 2) — Indicates number of zeros after effective number.
- 2 2 — 2-digit effective number.

• Units: μF.

2 2 1 ⇒ 220pF
- 1 (0 or 1) — Indicates number of zeros after effective number.
- 2 2 — 2-digit effective number.

• Units: pF.

• When the dielectric strength is indicated in AC, "AC" is included after the dieelectric strength value.

PRINTED WIRING BOARD PARTS LIST

1U-2817E MAIN UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC101	262 1227 008	IC LC7821	
IC301	263 0615 902	IC BA15218F	
IC401	263 1010 001	IC BA178M06	
IC701	263 1032 908	IC NJM2082MD	
IC801	262 1701 906	IC :SAA6579T	
IC802	262 1929 908	IC LC7074M	
TR251	274 0158 003	Transistor 2SD2004(P)	
TR252	272 0115 008	Transistor 2SB1328(P)	
TR253	273 0432 904	Transistor 2SC2389S(S/E)	
TR254	271 0280 901	Transistor 2SA933S(S)	
TR255	273 0432 984	Transistor 2SC2389S(S/E)	
TR256	271 0280 901	Transistor 2SA1038S(S/E)	
TR257	273 0432 904	Transistor 2SC2389S(S/E)	
TR301,302	269 0107 900	Transistor RN1241(A/B)	Built in resistor
TR303,304	273 0235 923	Transistor 2SC1841(E/F)	
TR305~308	271 0131 924	Transistor 2SA988(E/F)	
TR309,310	273 0235 923	Transistor 2SC1841(E/F)	
TR315,316	273 0198 905	Transistor 2SC1815(Y)	
TR317,318	274 0060 900	Transistor 2SD667A(C)	
TR319,320	272 0053 908	Transistor 2SB647A(C)	
TR321,322	273 0389 002	Transistor 2SC3855(O/P/Y)	
TR323,324	271 0240 006	Transistor 2SA1491(O/P/Y)	
TR325,326	273 0235 923	Transistor 2SC1841(E/F)	
TR401	273 0384 900	Transistor 2SC2412K(S)	
TR402	269 0048 904	Transistor DTC143EK	Built in resistor
TR403	273 0384 900	Transistor 2SC2412K(S)	
TR404	272 0131 901	Transistor 2SB1041(R)	
TR451	271 0131 924	Transistor 2SA988(E/F)	
TR452	273 0432 904	Transistor 2SC2389S(S/E)	
TR453	269 0054 901	Transistor DTC144EK	Built in resistor
TR454	273 0384 900	Transistor 2SC2412K(S)	
TR455	273 0388 906	Transistor 2SC1740S(E)	
TR456	271 0192 905	Transistor 2SA933S(S)	
TR457	273 0388 906	Transistor 2SC1740S(E)	
TR458,459	273 0432 904	Transistor 2SC2389S(S/E)	
TR460	273 0384 900	Transistor 2SC2412K(S)	
TR471	269 0083 901	Transistor DTA114EK	Built in resistor
TR473	269 0054 901	Transistor DTC144EK	Built in resistor
D251	276 0667 008	Bridge diode 4D4B41	
D252	276 0553 905	Diode 1SR35-200A	
D253,254	276 0616 907	Diode 1SS252	
D303~306	276 0619 904	Diode 1S2471	
D307~312	276 0616 907	Diode 1SS252	
D401,402	276 0616 907	Diode 1SS252	
D403	276 0553 905	Diode 1SR35-200A	
D405~410	276 0553 905	Diode 1SR35-200A	
D411,412	276 0616 907	Diode 1SS252	
D451~453	276 0616 907	Diode 1SS252	
D651	276 0616 907	Diode 1SS252	
ZD101	276 0634 905	Zener diode MTZJ3.3A	
ZD251,252	276 0637 902	Zener diode MTZJ6.2A	
ZD401	276 0634 905	Zener diode MTZJ3.3A	
ZD402	276 0633 906	Zener diode MTZJ6.8C	
ZD403	276 0632 907	Zener diode MTZJ27D	
ZD451~453	276 0635 904	Zener diode MTZJ7.5C	
SC451	279 0016 904	Thyristor SF0R1A42	
RESISTORS GROUP			
VR305,306	211 6093 909	Semi fixed resistor 6.8Kohm	V06PB682
R001,002	247 0018 905	Carbon chip 0ohm 1/10W	RM73B--0R0K
R101~108	247 0014 967	Carbon chip 1Mohm 1/10W	RM73B--105J
R109~116	247 0006 962	Carbon chip 470ohm 1/10W	RM73B--471J
R117	247 0014 925	Carbon chip 680kohm 1/10W	RM73B--684J
R131~134	247 0014 967	Carbon chip 1Mohm 1/10W	RM73B--105J
R135~138	247 0006 962	Carbon chip 470ohm 1/10W	RM73B--471J
⚠R201,202	244 2052 931	Metal oxide film 390ohm 1W	RS14B3A391JNBS(S)
⚠R259,260	241 2387 940	Carbon 4.7ohm 1/4W	RD14B2E4R7JNBS
R263	247 0009 985	Carbon chip 10kohm 1/10W	RM73B--103J
R264	247 0012 927	Carbon chip 100kohm 1/10W	RM73B--104J
R305,306	247 0012 969	Carbon chip 150kohm 1/10W	RM73B--154J
R307,308	247 0006 962	Carbon chip 470ohm 1/10W	RM73B--471J
R309,310	247 0009 914	Carbon chip 5.1kohm 1/10W	RM73B--512J
⚠R311,312	241 2379 932	Carbon 620ohm 1/4W	RD14B2E621JNBS
R323,324	247 0005 989	Carbon chip 220kohm 1/10W	RM73B--221J
⚠R329,330	241 2378 920	Carbon 220ohm 1/4W	RD14B2E221JNBS
⚠R331~334	244 2043 982	Metal oxide film 0.22ohm 1W	RS14B3AR22JNBS(S)
R335,336	247 0013 984	Carbon chip 470kohm 1/10W	RM73B--474J
R351,352	247 0012 901	Carbon chip 82kohm 1/10W	RM73B--823J
R353,354	247 0012 969	Carbon chip 150kohm 1/10W	RM73B--154J
R355,356	247 0004 922	Carbon chip 47ohm 1/10W	RM73B--470J
R357	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B--472J
R358	247 0011 944	Carbon chip 47kohm 1/10W	RM73B--473J
⚠R361~364	244 2043 982	Metal oxide film 0.22ohm 1W	RS14B3AR22JNBS(S)
⚠R385,386	241 2379 932	Carbon 620ohm 1/4W	RD14B2E621JNBS
⚠R387~390	241 2377 989	Carbon 150ohm 1/4W	RD14B2E151JNBS
⚠R391,392	244 2043 937	Metal oxide film 10ohm 1W	RS14B3A100JNBS(S)

Ref. No.	Part No.	Part Name	Remarks
R401	247 0013 900	Carbon chip 220kohm 1/10W	RM73B--224J
R402	247 0009 985	Carbon chip 10kohm 1/10W	RM73B--103J
R403	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B--472J
R404,405	247 0007 945	Carbon chip 1kohm 1/10W	RM73B--102J
R406	247 0009 985	Carbon chip 10kohm 1/10W	RM73B--103J
R407	247 0010 958	Carbon chip 20kohm 1/10W	RM73B--203J
R408	247 0009 985	Carbon chip 10kohm 1/10W	RM73B--103J
R409	247 0007 945	Carbon chip 1kohm 1/10W	RM73B--102J
R410	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B--472J
⚠R411	244 2051 987	Metal oxide film 4.7ohm 1W	RS14B3A4R7JNBS(S)
⚠R412	241 2377 947	Carbon 100ohm 1/4W	RD14B2E101JNBS
⚠R415	241 2387 908	Carbon 1ohm 1/4W	RD14B2E010JNBS
⚠R451,452	244 2052 902	Metal oxide film 2.7kohm 1W	RS14B3A272JNBS(S)
⚠R453	244 2051 990	Metal oxide film 4.7kohm 1W	RS14B3A472JNBS(S)
R460	247 0011 944	Carbon chip 47kohm 1/10W	RM73B--473J
⚠R465,466	244 2052 902	Metal oxide film 2.7kohm 1W	RS14B3A272JNBS(S)S
⚠R467	244 2050 991	Metal oxide film 6.8kohm 1W	RS14B3A682JNBS(S)
R468	244 2052 957	Metal oxide film 5.6kohm 1W	RS14B3A562JNBS(S)
R475	247 0010 929	Carbon chip 15kohm 1/10W	RM73B--153J
R701,702	247 0009 901	Carbon chip 4.7kohm 1/10W	RM73B--472J
R703,704	247 0012 969	Carbon chip 150kohm 1/10W	RM73B--154J
R705,706	247 0011 986	Carbon chip 68kohm 1/10W	RM73B--683J
R707,708	247 0004 922	Carbon chip 47ohm 1/10W	RM73B--470J
R709,710	247 0005 992	Carbon chip 240ohm 1/10W	RM73B--241J
R711,712	247 0012 956	Carbon chip 130kohm 1/10W	RM73B--134J
R713,714	247 0009 998	Carbon chip 11kohm 1/10W	RM73B--113J
R715,716	247 0003 949	Carbon chip 22ohm 1/10W	RM73B--220J
R717,718	247 0005 905	Carbon chip 100ohm 1/10W	RM73B--101J
R719,720	247 0012 927	Carbon chip 100kohm 1/10W	RM73B--104J
CAPACITORS GROUP			
C101~108	257 0004 903	Ceramic chip 56pF/50V	CC73SL1H560J
C109,110	253 1179 945	Ceramic 220pF/50V	CK45B1H221KT
C111	257 0002 921	Ceramic chip 10pF/50V	CC73SL1H100D
C112,113	257 0012 982	Ceramic chip 0.022μF/50V	CK73F1H223Z
C124,125	257 0012 982	Ceramic chip 0.022μF/50V	CK73F1H223Z
C127	257 0012 982	Ceramic chip 0.022μF/50V	CK73F1H223Z
C131~134	257 0004 903	Ceramic chip 56pF/50V	CC73SL1H560J
C201~204	255 1265 907	Film 6800pF/50V	CQ93M1H682J(B)
C205,206	257 0006 985	Ceramic chip 820pF/50V	CC73SL1H821J
C251~254	254 4258 918	Electrolytic 10μF/35V	CE04W1V100M
⚠C257,258	254 6201 002	Electrolytic 7200μF/63V	CE04W==722MC(DL)
C259	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C307,308	257 0006 927	Ceramic chip 470pF/50V	CC73SL1H471J
C311~314	253 4536 909	Ceramic 10pF/50V	CC45SL1H100D
C323,324	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C325.326	255 1265 936	Film 0.01μF/50V	CQ93M1H103J(B)

Ref. No.	Part No.	Part Name	Remarks
C331,332	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C333,334	254 4260 922	Electrolytic 0.33μF/50V	CE04W1HR33M
C335,336	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
C337,338	257 0002 992	Ceramic chip 20pF/50V	CC73SL1H200J
C339,340	254 4254 925	Electrolytic 33μF/16V	CE04W1C330M
C341,342	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
⚠C353,354	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J
C355,356	255 1265 978	Film 0.022F/50V	CQ93M1H223J(B)
C357	254 4260 948	Electrolytic 1mF/50V	CE04W1H010M
C358	253 9030 963	Ceramic 0.01μF/25V	CK45=1E103K
C359,360	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C401	254 4258 905	Electrolytic 4.7μF/35V	CE04W1V4R7M
C402	257 0012 966	Ceramic chip 0.01μF/50V	CK73F1H103Z
C403	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C404,405	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C406	259 0007 702	For back up 8200μF	SB CAP==822=C
C407	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C408	254 4403 734	Electrolytic 4700μF/25V	CE04W1E472MC(SMG)
C409	254 4261 921	Electrolytic 100μF/50V	CE04W1H101M
C410	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C451	254 4260 980	Electrolytic 10μF/50V	CE04W1H100M
C452	254 4254 925	Electrolytic 33μF/16V	CE04W1C330M
C453	254 4250 945	Electrolytic 330μF/6.3V	CE04W0J331M
C456	255 1265 936	Film 0.01μF/50V	CQ93M1H103J(B)
C459,460	253 1151 905	Ceramic 4700pF/500V	CK45E2H472P
⚠C461	256 1042 903	Metalized 0.1μF/250V	CF93A2E104K
C462	254 4254 938	Electrolytic 47μF/16V	CE04W1C470M
C549	254 4252 927	Electrolytic 47μF/10V	CE04W1A470M
C701,702	257 0003 988	Ceramic chip 47pF/50V	CC73SL1H470J
C703,704	257 0005 944	Ceramic chip 220pF/50V	CC73SL1H221J
C705,706	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C709,710	254 4250 929	Electrolytic 100μF/6.3V	CE04W0J101M
C711,712	255 4199 999	Film 0.024μF/50V	CQ92M1H243J(MRZ)
C713,714	255 1265 907	Film 6800pF/50V	CQ93M1H682J(B)
C715,716	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C717,718	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103Z
C724	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C725	257 0012 982	Ceramic chip 0.022μF/50V	CK73F1H223Z
C801,802	257 0016 962	Ceramic chip 27pF/50V	CC73CH1H270J
C803~805	254 4250 916	Electrolytic 47μF/6.3V	CE04W0J470M
C807,808	257 0003 933	Ceramic chip 30pF/50V	CC73SL1H300J
C809	257 0012 966	Ceramic chip 0.01μF/50V	CK73F1H103Z
C810	254 4250 916	Electrolytic 47μF/6.3V	CE04W0J470M
C811	257 0006 943	Ceramic chip 560pF/50V	CC73SL1H561J

1U-2818 TUNER UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
OTHERS PARTS GROUP			
CB29D	205 0990 045	29P FFC connector base	
CB6A,6C	205 0918 001	6P bottom socket	
CB8A	205 0918 014	8P bottom socket	
CB8B,8C	205 0806 090	8P connector base (9115)	
CN3C	203 2377 000	2P DA-DA connector cord	
CN7A	205 0653 078	7P VH connector base	
L391,392	235 0104 007	Inductor(1MHz)	
L701,702	235 9003 002	FTZ choke coil	
RL451,452	214 0167 005	Relay(G5Z-2A)	
RL453	214 0127 003	Relay(RY-12W)	
TH451	279 0034 067	Posistor	PTH9M04BB222TS2F333
TP001,002	205 0190 036	3P NH Connector base	TEST POINT
XL601	399 0178 007	Crystal	4.332MHz
XT801	399 0041 901	Resonator	CSA4.00MG
	205 0484 001	8P speaker terminal	Europe model
	203 0475 072	1P contact Ass'y	
	205 0472 013	8P speaker terminal	U.K model
	204 8485 009	4P pin jack(S-GND)	
	204 8486 008	6P pin jack(S-GND)	

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC501	263 0891 001	IC LA1265(S)	
IC502	263 0439 007	IC LA3401	
IC503	263 0791 907	IC LM7001M	
IC504	263 0794 001	IC NJM78M12FA(S)	
TR501	275 0074 902	Transistor 2SK211(Y/GR)	
TR502	273 0438 908	Transistor 2SC2413K (Q)	
TR503	269 0157 905	Transistor DTB123EK	Built in resistor
TR504	269 0083 901	Transistor DTA114EK	Built in resistor
TR505,506	269 0054 901	Transistor DTC144EK	Built in resistor
TR507	271 0279 909	Transistor 2SA1515(R)	
TR508	275 0075 901	Transistor 2SK209(Y/GR)	
TR509	273 0403 904	Transistor 2SC2712(Y/GR)	
D501	276 0559 909	Diode DAP202K	
RESISTORS GROUP (Not included carbon film ±5% 1/4W)			
R001~016	*247 0018 905*	*Chip 0ohm 1/10W*	RM73B--0R0K
R501	247 0004 906	Chip 39ohm 1/10W	RM73B--390J
R502	247 0007 945	Chip 1kohm 1/10W	RM73B--102J
R503	247 0009 985	Chip 10kohm 1/10W	RM73B--103J
R504	247 0009 927	Chip 5.6kohm 1/10W	RM73B--562J
R505	247 0006 920	Chip 330ohm 1/10W	RM73B--331J
R506	247 0009 901	Chip 4.7kohm 1/10W	RM73B--472J
R507	247 0005 989	Chip 220ohm 1/10W	RM73B--221J
R508,509	247 0006 920	Chip 330ohm 1/10W	RM73B--331J
R510	247 0006 988	Chip 560ohm 1/10W	RM73B--561J
R511	247 0012 927	Chip 100kohm 1/10W	RM73B--104J
R512	247 0009 914	Chip 5.1kohm 1/10W	RM73B--512J
R513	247 0005 905	Chip 100ohm 1/10W	RM73B--101J
R514	247 0008 986	Chip 3.9kohm 1/10W	RM73B--392J
R515	247 0006 946	Chip 390ohm 1/10W	RM73B--391J
R516	247 0005 947	Chip 150ohm 1/0W	RM73B--151J
R517	247 0009 985	Chip 10kohm 1/10W	RM73B--103J
R518	247 0018 905	Chip 0ohm 1/10W	RM73B--0R0K
R519	247 0009 901	Chip 4.7kohm 1/10W	RM73B--472J
R520	247 0004 980	Chip 82ohm 1/10W	RM73B--820J
R521	247 0008 944	Chip 2.7kohm 1/10W	RM73B--272J
R522	247 0011 902	Chip 33kohm 1/10W	RM73B--333J
R523~525	247 0009 985	Chip 10kohm 1/10W	RM73B--103J
R526	247 0008 957	Chip 3kohm 1/10W	RM73B--302J
R527	247 0011 986	Chip 68kohm 1/10W	RM73B--683J
R528	247 0009 956	Chip 7.5kohm 1/10W	RM73B--752J
R529	247 0008 960	Chip 3.3kohm 1/10W	RM73B--332J
R530	247 0012 927	Chip 100kohm 1/10W	RM73B--104J
R532	247 0009 985	Chip 10kohm 1/10W	RM73B--103J
R533	247 0007 945	Chip 1kohm 1/10W	RM73B--102J
R534	247 0011 915	Chip 36kohm 1/10W	RM73B--363J

Ref. No.	Part No.	Part Name	Remarks
R535	247 0010 974	Chip 24kohm 1/10W	RM73B--243J
R536	247 0012 985	Chip 180kohm 1/10W	RM73B--184J
R537	247 0012 998	Chip 200kohm 1/10W	RM73B--204J
R538	247 0012 985	Chip 180kohm 1/10W	RM73B--184J
R539	247 0012 998	Chip 200kohm 1/10W	RM73B--204J
R540,541	247 0008 902	Chip 1.8kohm 1/10W	RM73B--182J
R542,543	247 0009 901	Chip 4.7kohm 1/10W	RM73B--472J
R544	247 1007 986	Chip 1.5kohm 1/8W	RM73B2B152J
R545	247 0009 985	Chip 10kohm 1/10W	RM73B--103J
R546	247 0012 927	Chip 100kohm 1/10W	RM73B--104J
CAPACITORS GROUP			
C501~506	257 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z
C507	257 0002 947	Chip(Ceramic) 12pF/50V	CC73SL1H120J
C508	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C509	257 0004 961	Chip(Ceramic) 100pF/50V	CC73SL1H101J
C510	257 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z
C511	254 4260 906	Electrolytic 0.1μF/50V	CE04W1H0R1M
C513	254 3056 917	Electrolytic 1μF/50V (Non-polar)	CE04D1H010MBP
C514	257 0012 982	Chip(Ceramic) 0.022μF/50V	CK73F1H223Z
C515,516	257 0002 976	Chip(Ceramic) 16pF/50V	CC73SL1H160J
C517	254 4254 938	Electrolytic 47μF/16V	CE04W1C470M
C518,519	257 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z
C520	254 4260 922	Electrolytic 0.33μF/50V	CE04W1HR33M
C521	257 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z
C522	254 4256 936	Electrolytic 47μF/25V	CE04W1E470M
C523	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C524	254 4260 964	Electrolytic 3.3μF/50V	CE04W1H3R3M
C525	257 0012 982	Chip(Ceramic) 0.022μF/50V	CK73F1H223Z
C526	257 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z
C527	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C528	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C529	257 1013 951	Chip(Ceramic) 0.047μF/25V	CK73F1E473K
C530	254 4254 912	Electrolytic 22μF/16V	CE04W1C220M
C531	257 0004 961	Chip(Ceramic) 100pF/50V	CC73SL1H101J
C532	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C533	254 4260 919	Electrolytic 0.22μF/50V	CE04W1HR22M
C534	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C535,536	257 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z
C537	254 4254 912	Electrolytic 22μF/16V	CE04W1C220M
C538	254 4254 938	Electrolytic 47μF/16V	CE04W1C470M
C539,540	257 0005 960	Chip(Ceramic) 270pF/50V	CC73SL1H271J
C541	254 4260 951	Electrolytic 2.2μF/50V	CE04W1H2R2M
C545	253 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z
C548	254 4260 951	Electrolytic 2.2μF/50V	CE04W1H2R2M
C550,551	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C553,554	257 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z
C555	256 1034 937	Metalized 0.047μF/50V	CF93A1H473J
C561	257 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z

Ref. No.	Part No.	Part Name	Remarks
OTHERS PARTS GROUP			
CF501,502	261 0064 007	Ceramic filter	SFT10.7MS2
CF504	261 0101 009	:Ceramic filter	BFU450C4N
CN8B,8C	205 0805 091	8P connector socket	
FE501	216 0065 006	Front end	
T501	231 1913 004	MW antenna OSC coil	
T502	231 2099 008	FM DET trans	
T503	231 3904 008	:AM IFT	
T504	232 9010 009	Antibirdie filter	
T505,506	232 0085 004	:LPF	
XL502	261 0103 007	:Resonator	CSB456F11
XL503	399 0075 003	Crystal	7.2MHz
	205 0847 004	3P antenna terminal(PAL/F)	
	203 0526 031	1P Contact Ass'y	

KU-9328 DISPLAY UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC601	262 2249 001	IC TMP87CM71F-6348	
IC602	263 0905 900	IC BA6208F	
ZD651	276 0654 901	Zener diode DTZ8.2B	
RESISTORS GROUP (Not included carbon film ±5% 1/4W)			
VR301	211 0841 018	Valiable 100kohm	V14P22FW104K
VR302	211 0831 002	Valiable 100kohm	V1620V25FB104(MG)
VR303	211 0842 017	Valiable 250kohm	V14P22FC254K
VR304	211 0843 016	Valiable 50kohm	V14P22FC503K
VR307	211 9131 004	Valiable 100kohm	V14P22FB104K
R301,302	247 0011 928	Chip 39kohm 1/10W	RM73B--393J
R303,304	247 0009 943	Chip 6.8kohm 1/10W	RM73B--682J
R361,362	247 0011 973	Chip 62kohm 1/10W	RM73B--623J
R363,364	247 0009 998	Chip 11kohm 1/10W	RM73B--113J
R365,366	247 0008 931	Chip 2.4kohm 1/10W	RM73B--242J
R367,368	247 0013 984	Chip 470kohm 1/10W	RM73B--474J
R369,370	247 0010 945	Chip 18kohm 1/10W	RM73B--183J
R371,372	247 0009 943	Chip 6.8kohm 1/10W	RM73B--682J
R373,374	247 0006 917	Chip 300ohm 1/10W	RM73B--301J
R375,376	247 0011 944	Chip 47kohm 1/10W	RM73B--473J
R379,380	247 0009 901	Chip 4.7kohm 1/10W	RM73B--472J
R651	247 1009 900	Chip 4.7kohm 1/8W	RM73B2B472J
R652~657	247 0009 985	Chip 10kohm 1/10W	RM73B--103J
R665	247 0007 945	Chip 1kohm 1/10W	RM73B--102J
R666	247 0005 976	Chip 200ohm 1/10W	RM73B--201J
R667	247 0006 917	Chip 300ohm 1/10W	RM73B--301J
R668	247 0007 945	Chip 1kohm 1/10W	RM73B--102J
R669	247 0005 976	Chip 200ohm 1/10W	RM73B--201J
R670	247 0006 917	Chip 300ohm 1/10W	RM73B--301J
R671	247 0007 945	Chip 1kohm 1/10W	RM73B--102J
R672	247 0005 976	Chip 200ohm 1/10W	RM73B--201J
R673	247 0006 917	Chip 300ohm 1/10W	RM73B--301J
R674	247 0006 975	Chip 510ohm 1/10W	RM73B--511J
R675	247 0007 945	Chip 1kohm 1/10W	RM73B--102J
R676	247 0007 945	Chip 1kohm 1/10W	RM73B--102J
R677	247 0005 976	Chip 200ohm 1/10W	RM73B--201J
R678	247 0006 917	Chip 300ohm 1/10W	RM73B--301J
R679	247 0006 975	Chip 510ohm 1/10W	RM73B--511J
R680	247 0007 945	Chip 1kohm 1/10W	RM73B--102J
R681	247 0009 985	Chip 10kohm 1/10W	RM73B--103J
R682,683	247 0009 985	Chip 10kohm 1/10W	RM73B--103J
R685	247 0008 957	Chip 3kohm 1/10W	RM73B--302J

Ref. No.	Part No.	Part Name	Remarks
CAPACITORS GROUP			
C300	257 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z
C301,302	257 0006 943	Ceramic 560pF/50V	CC73SL1H561J
C303,304	255 1265 978	Film 0.022μF/50V	CQ93M1H223J(B)
C361,362	257 0004 961	Ceramic 100pF/50V	CC73SL1H101J
C363,364	255 1265 981	Film 0.027μF/50V	CQ93M1H273J(B)
C365,366	256 1034 982	Metalized 0.12μF/50V	CF93A1H124J
C367,368	255 1264 924	Film 1500pF/50V	CQ93M1H152J(B)
C369,370	255 1265 936	Film 0.01μF/50V	CQ93M1H103J(B)
C651	257 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z
C652	254 4300 963	Electrolytic 100μF/6.3V	CE04W0J101M(SRE)
C653	257 0012 966	Chip(Ceramic) 0.01μF/50V	CK73F1H103Z
C655	254 4299 964	Electrolytic 47μF/16V	CE04W1C470M(SRE)
C657	257 0012 982	Chip(Ceramic) 0.022μF/50V	CK73F1H223Z
C666	257 0004 961	Ceramic 100pF/50V	CC73SL1H101J
OTHERS PARTS GROUP			
CB8D	205 0919 026	8P JQ socket(Side)	
CN29D	205 0990 045	29P FFC connector base	
CN6A,6C	205 0917 002	6P bottom plug	
CN8A	205 0917 015	8P bottom plug	
CN8D	205 0408 045	8P JQ socket	
FL401	393 4155 002	FL tube	FIP14AM7R
JK201	204 8354 017	Head phone jack	Black model
JK201	204 8355 003	Head phone jack	Gold model
RM601	499 0150 008	Remote sensor	SBX1610-52
SW302,303	212 1140 009	Push switch(ESB6440)	
SW601~617	212 5604 910	Tact switch	
XL651	399 0261 901	Resonator	DCRH4.00M
	414 0740 006	Shield plate	

1U-2915 POWER UNIT ASS'Y

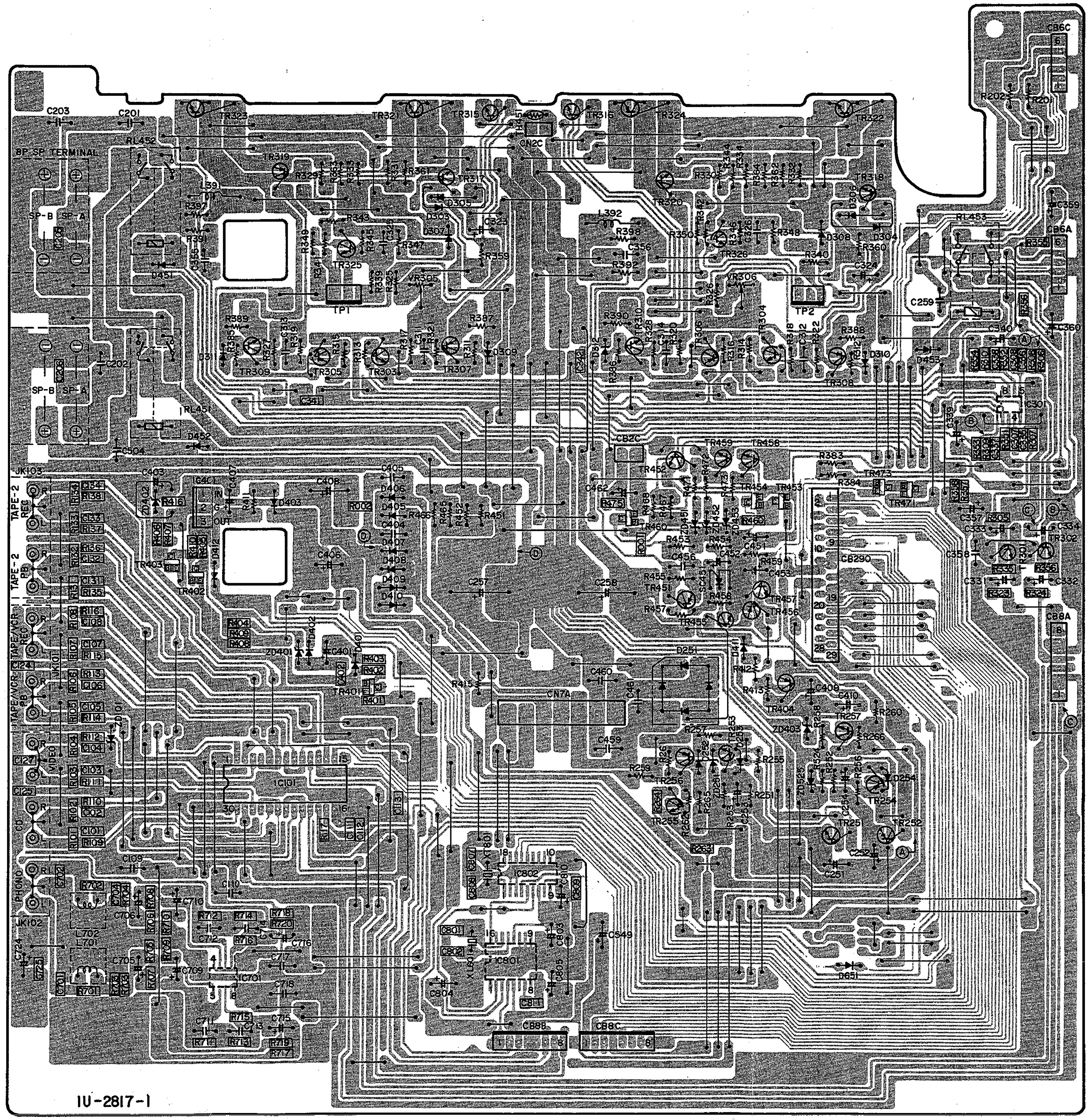
Ref. No.	Part No.	Part Name	Remarks
CAPACITORS GROUP			
⚠C411	253 8014 702	Ceramic 0.01μF/400V AC	CK45F2GA103MC
OTHERS PARTS GROUP			**CK45=1E103K**
⚠AC401	203 3961 004	1P AC outlet	Except to U.K.
⚠CN2A	203 2349 009	2P Inlet	
CN3A	205 0581 001	2P VH connector base	
⚠F401	206 1075 030	Fuse(2.0A)	
⚠F402	206 1075 001	Fuse(1A)	Except to U.K.
⚠SW401	212 1031 008	Power switch(TV-5)	
	415 0299 000	Condencer cover	
	202 0040 909	Fuse clip	

PRINTED WIRING BOARD PATTERNS

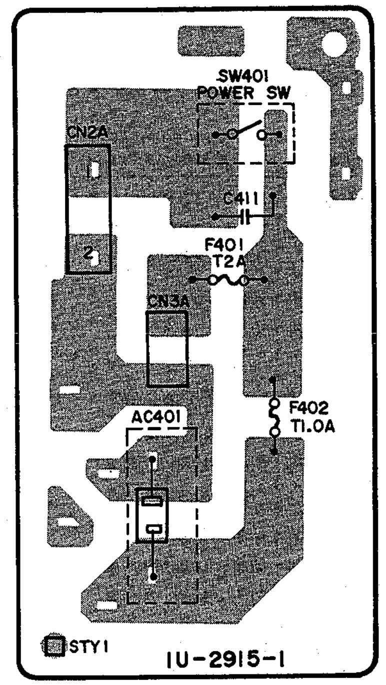
1 2 3 4 5 6 7 8

A B C D E

1U-2817 MAIN UNIT ASS'Y



1U-2915 POWER UNIT ASS'Y

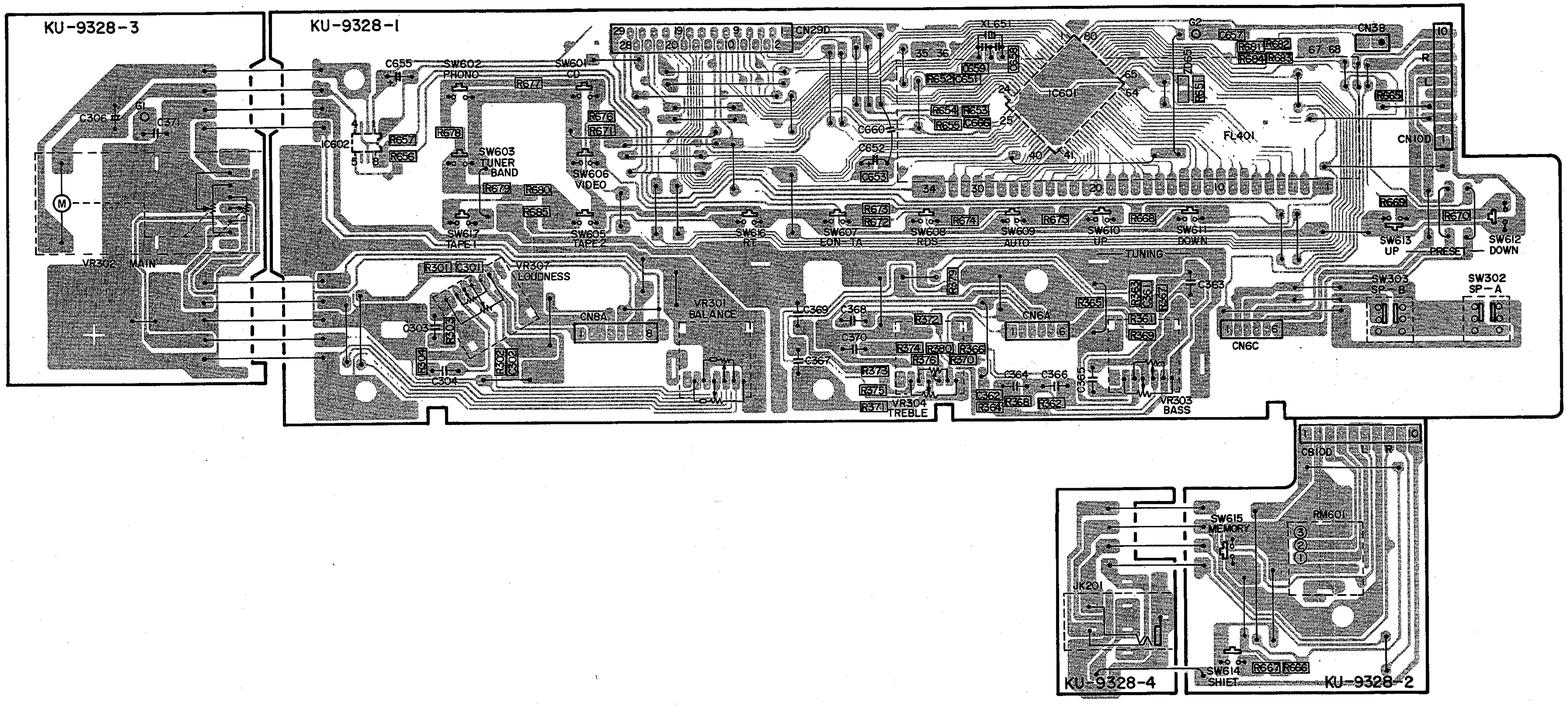


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1 2 3 4 5 6 7 8

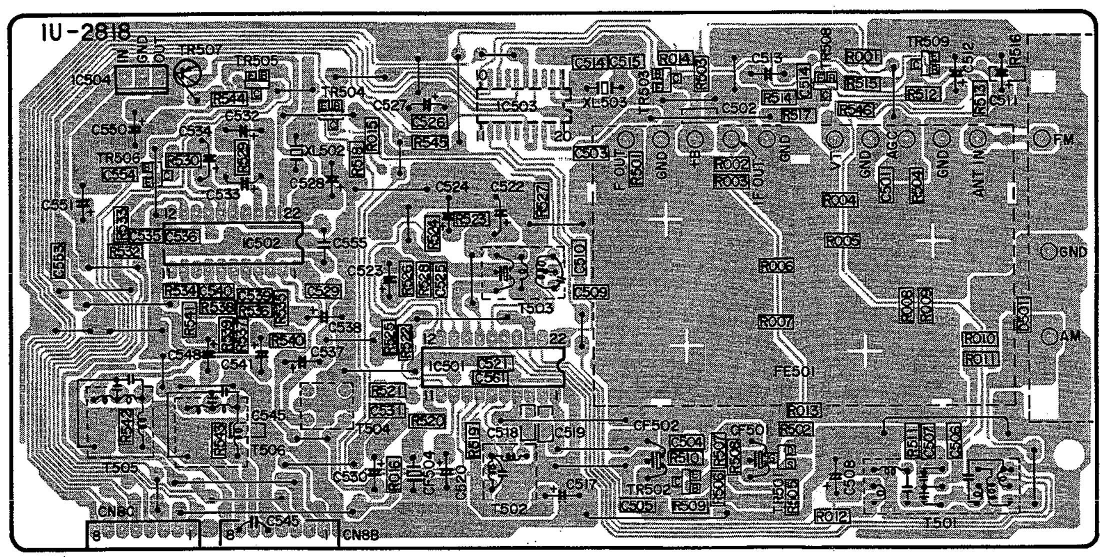
KU-9328 DISPLAY UNIT ASS'Y

A B C

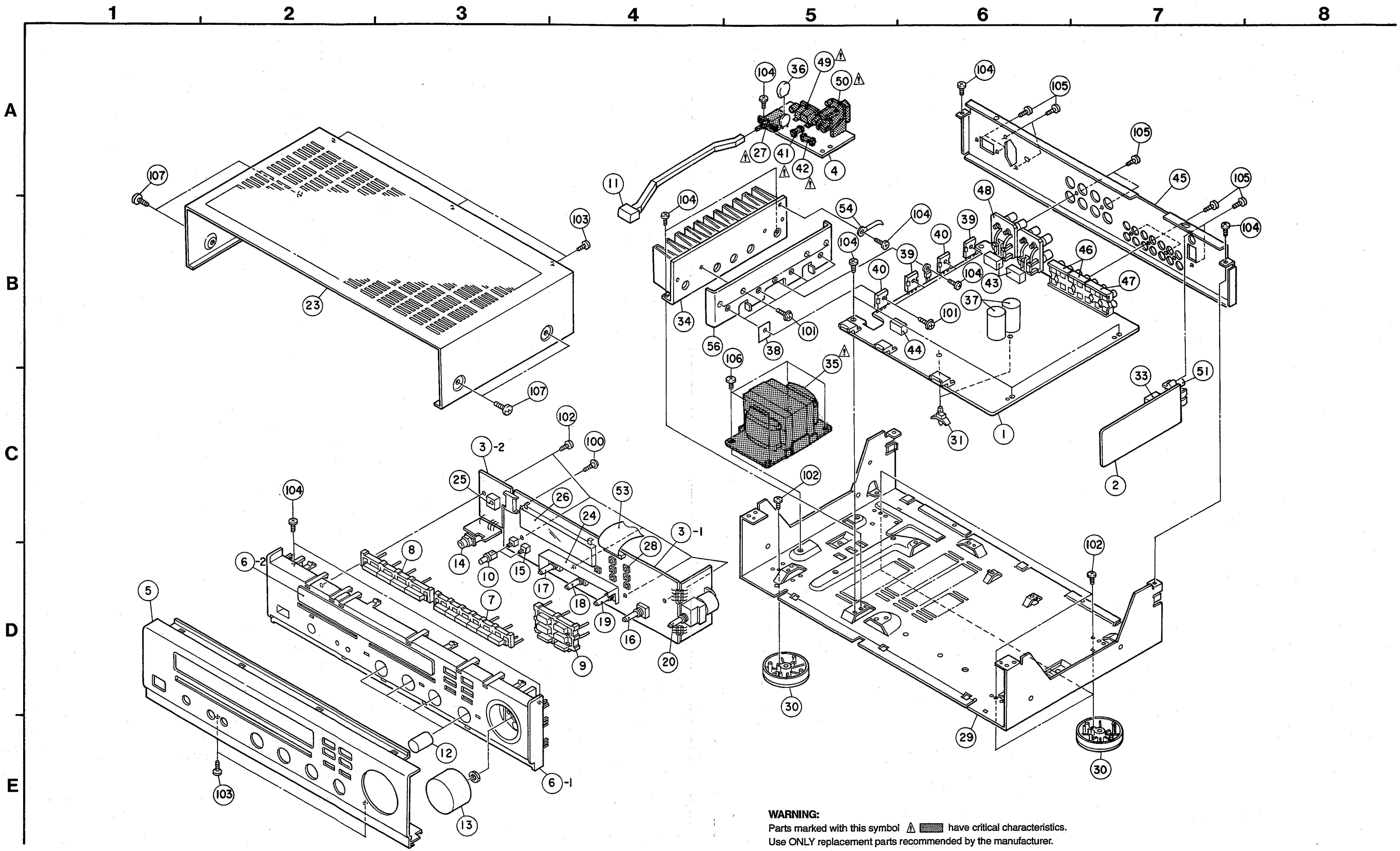


1U-2818 TUNER UNIT ASS'Y

D E



EXPLODED VIEW OF CHASSIS AND CABINET



WARNING:
Parts marked with this symbol ⚠ ▩ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

PARTS LIST EXPLODED VIEW

∗ Gold model = Except to U.K.

Ref. No.	Part No.	Part Name	Remarks	Q'ty
◉ 1	1U-2817 E	Main unit Ass'y	Europe model	1
	—			
◉ 1	1U-2817 F	Main unit Ass'y	U.K. model	1
	—			
◉ 2	1U-2818	Tuner unit Ass'y		1
◉ ┌3	KU-9328	Display unit Ass'y		1
┌3-1	—	Display & Volume unit		
└3-2	—	H/P J.& Remocon unit		
4	1U-2915	Power unit Ass'y		1
◉ 5	144 2487 002	Front panel	Black model	1
◉ 5	144 2487 015	Front panel	Gold model	1
◉ ┌6-1	146 1602 004	Inner panel Ass'y	Black model	1
└6-2	143 9187 001	(Window)		
◉ ┌6-1	146 1602 017	Inner panel Ass'y	Gold model	1
└6-2	143 9187 001	(Window)		
7	113 9325 008	Series button (A)	Black model	1
7	113 9325 011	Series button (A)	Gold model	1
8	113 9326 007	Series button (B)	Black model	1
8	113 9326 010	Series button (B)	Gold model	1
9	113 9324 229	Function button	Black model	1
9	113 9324 232	Function button	Gold model	1
10	113 9323 000	Push button (SP)	Black model	2
10	113 9323 013	Push button (SP)	Gold model	2
11	113 1721 105	Power button Ass'y	Black model	1
11	113 1721 011	Power button Ass'y	Gold model	1
12	112 0739 001	:*Knob (Maru)	Black model	4
12	112 0739 014	:*Knob (Maru)	Gold model	4
13	112 0737 029	:*Volume knob	Black model	1
13	112 0737 032	:*Volume knob	Gold model	1
14	204 8354 017	Head phone jack	Black model	1
14	204 8355 003	Head phone jack	Gold model	1
15	212 1140 009	Push switch(ESB6440)	SW3002,303	2
16	211 9131 004	Variable resistor	VR307	1
17	211 0842 017	Variable resistor	VR303	1
18	211 0843 016	Variable resistor	VR304	1
19	211 0841 018	Variable resistor	VR301	1
20	211 0831 002	Variable resistor	VR302	1
◉ 23	102 0571 013	Top cover	Gold model	1
◉ 23	102 0571 000	Top cover	Black model	1
◉ 24	414 0740 006	Shield plate		1
25	499 0150 008	Remote sensor	SBX1610-52	1
26	393 4155 002	FL tube	FIP14AM7R	1
⚠ 27	212 1031 008	Power switch (TV-5)		1
28	212 5604 910	Tact switch		
		SW601~603,605~617		16
◉ 29	411 1323 300	Chassis		1
◉ 30	104 0230 101	:Foot Ass'y		4
◉ 31	449 0033 049	Locking card spacer		2
33	216 0065 006	Front end		1
◉ 34	417 0529 006	:Power radiator		1
⚠ 35	233 6194 002	:Power Transformer		1
◉ 36	415 0299 000	Capacitor cover		1
37	254 6201 002	Electrolytic capacitor	C257,258	2
38	415 0234 007	Insulating sheet		4
39	271 0240 006	Transistor 2SA1491(O/P/Y)	TR323,324	2
40	273 0389 002	Transistor 2SC3855(O/P/Y)	TR321,322	2
⚠ 41	206 1075 030	Fuse (2.0A)	F401	1
⚠ 42	206 1075 001	Fuse (1A)	Except to U.K.	1
43	214 0167 005	Relay(G5Z-2A)	RL451,452	2
44	214 0127 003	Relay(RY-12W)	RL453	1
◉ 45	105 1187 104	:Rear panel	Europe model	1
◉ 45	105 1187 117	:Rear panel	U.K model	1
46	204 8485 009	4P pin jack(S-GND)		2
47	204 8486 008	6P pin jack(S-GND)		1
48	205 0484 001	8P speaker terminal	Europe model	1
48	205 0472 013	8P speaker terminal	U.K model	1
⚠ 49	203 2349 009	2P inlet	CN2A	1
⚠ 50	203 3961 004	1P AC outlet	Except to U.K.	1
◉ 51	205 0847 004	3P antenna terminal(PAL/F)		1
53	009 0134 009	29P FFC cable		1
54	445 0048 003	Cord holder(L=76)		1
56	417 0520 102	Sub radiator		1

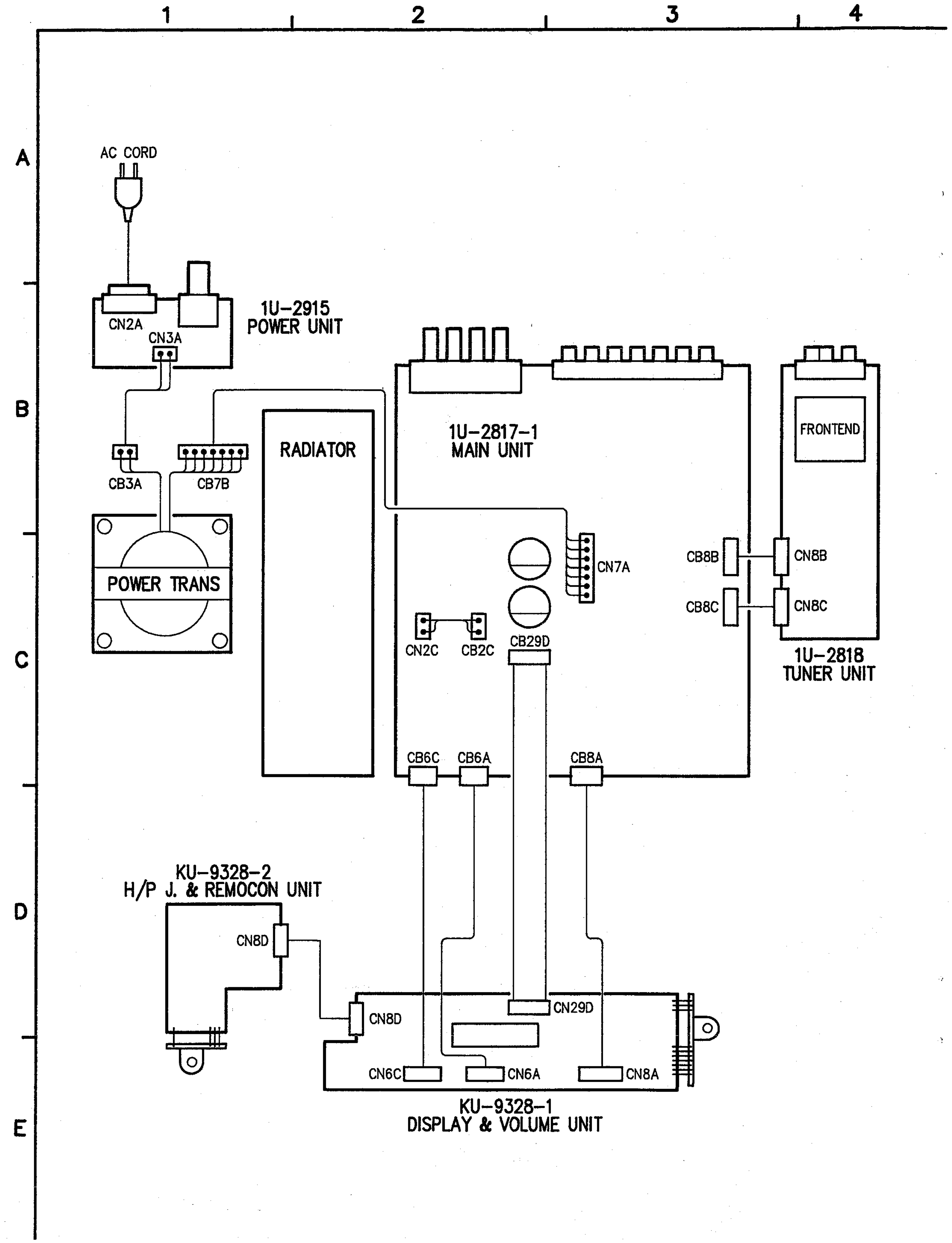
SCREWS

Ref. No.	Part No.	Part Name	Remarks	Q'ty
100	477 0262 006	Special screw		1
101	473 8007 009	Cup screw 3×12		8
102	473 7500 044	Screw 3×8 (P) BK		9
103	473 7015 018	Screw 3×8 (S) BK		5
104	473 7002 018	Screw 3×8 (S)		12
105	477 8057 004	Fixing screw 3×10 BK		11
106	473 7004 016	Screw 4×6 (S)		4
107	473 7007 013	Screw 4×10 (S) BK	Black model	4
107	473 4801 005	Screw 4×8	Gold model	4

PACKING & ACCESSORIES

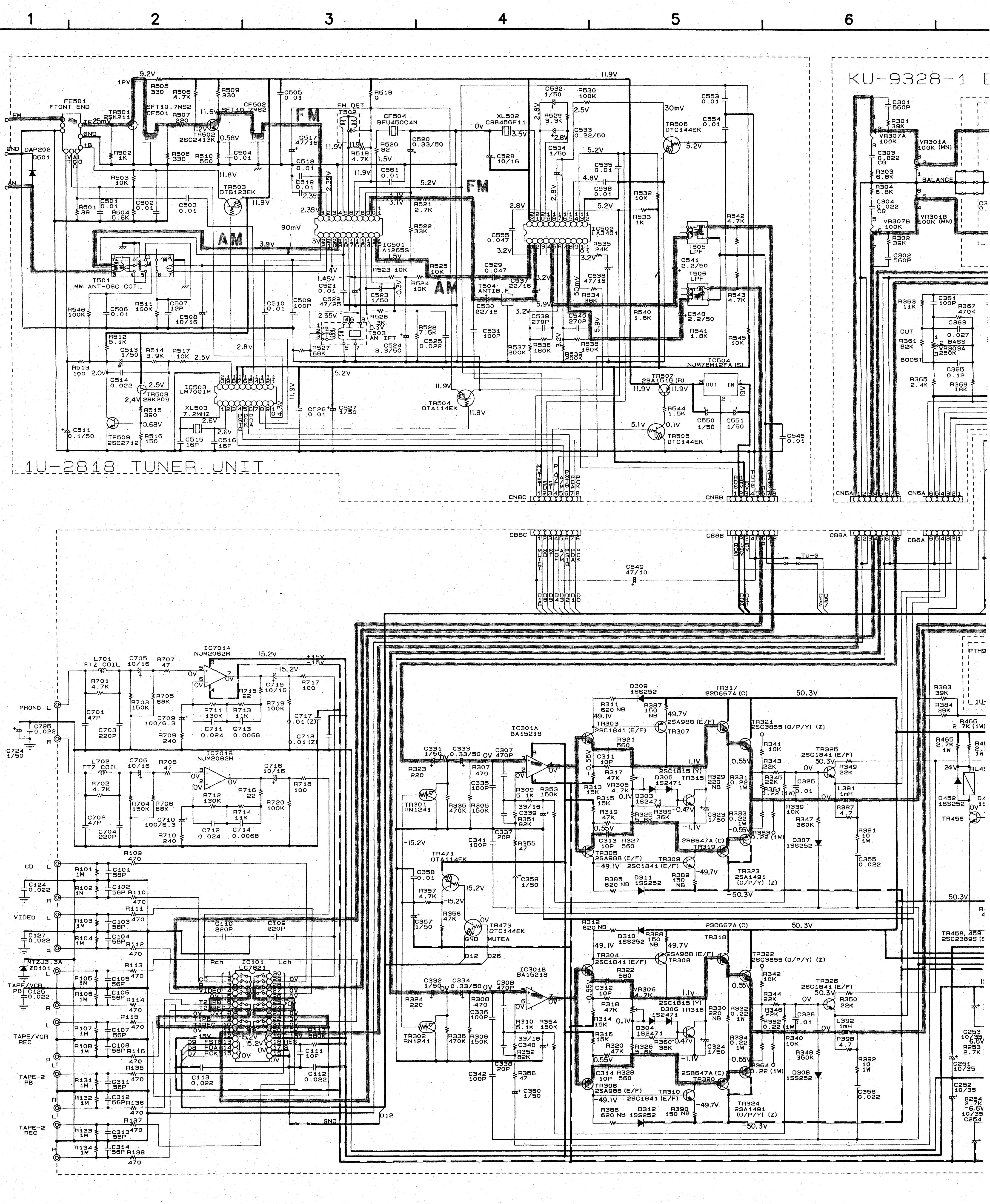
Ref. No.	Part No.	Part Name	Remarke	Q'ty
◉	505 0283 018	:Envelope		1
◉	511 2840 001	Operating instructions		1
	231 1914 003	AM loop antenna		1
	395 0023 008	:*FM antenna Ass'y		1
	399 0242 001	Remoto control unit	RC-174	1
⚠	206 2108 003	::AC connectorWith plug	Europe model	1
⚠	206 2113 001	:AC cordWith connector	U.K model	1
◉	505 0131 050	Cabinet cover		1
◉	503 1140 109	:Cushion		2
◉	501 1871 045	Carton case		1

WIRING DIAGRAM



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SCHEMATIC DIAGRAM

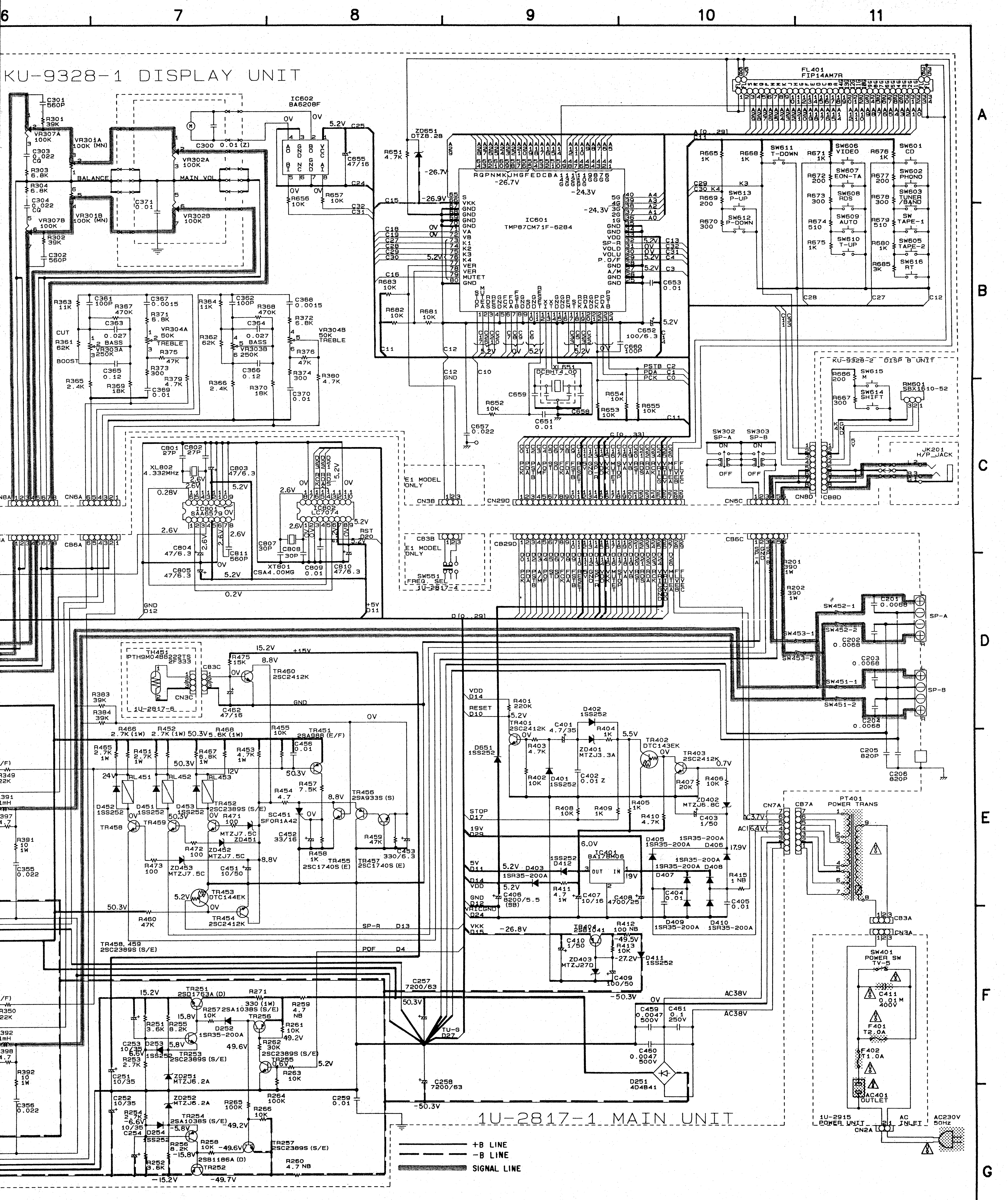


WARNING:
Parts marked with this symbol ⚠ ▒ have critical cha
Use ONLY replacement parts recommended by the manu

CAUTION:
Before returning the unit to the customer, make sure you ı
current check or (2) a line to chassis resistance check. If t
exceeds 0.5 milliamps, or if the resistance from chassis tc
cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem

NOTES:
Circuit and parts are subject to change without pric



s symbol ⚠ ▒▒▒ have critical characteristics.
nt parts recommended by the manufacturer.

nit to the customer, make sure you make either (1) a leakage
line to chassis resistance check. If the leakage current
s, or if the resistance from chassis to either side of the power
kohms, the unit is defective.

nit to the customer until the problem is located and corrected.

e subject to change without prior notice.

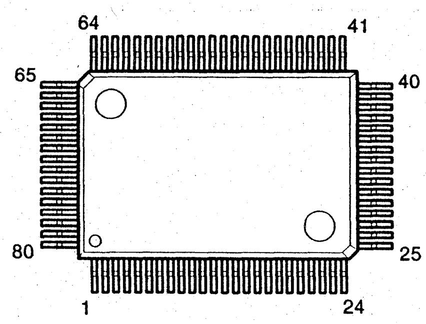
NOTES

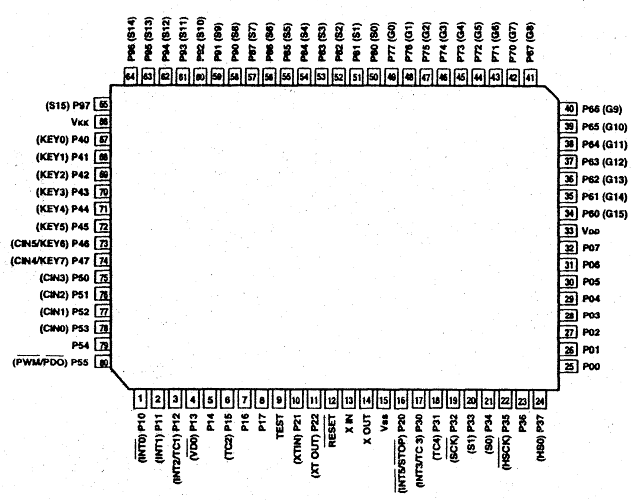
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM,
M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD.
P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

SEMICONDUCTORS

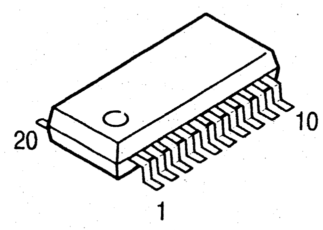
● IC's

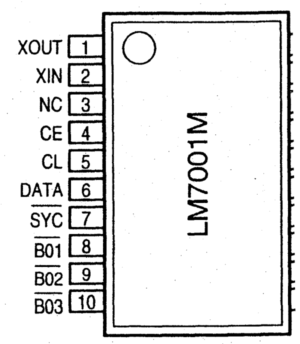
TMP87CM71F-6348 (IC601)





LM7001 (IC503)



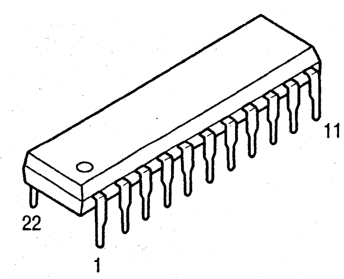


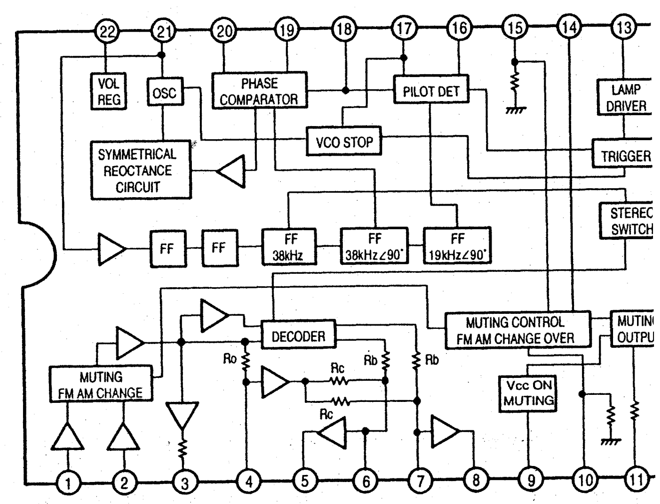
TMP87CM71F Port Allocation Table

Pin No.	Symbol	I/O	Logic	Initial Setting	Function
1	STOP	I	L	—	Power down detection ("L" = at power down).
2	MUTE (A)	I	—	—	MUTE (A) output ("H" = MUTE)
3	RDS	I	Serial	—	RDS data (start) input.
4	RES	O	L	H	LC7074 reset output.
5	GND	I	Serial	—	Not used.
6	FCK	O	Serial	L	Function control output (LC7821) for F-CK.
7	FDA	O	Serial	L	Function control output (LC7821) for F-DATA.
8	F STB	O	H	L	Function control output (LC7821) for F-STB.
9	GND	I	—	—	Connect to GND.
10	SD	I	L	—	Tuned signal input ("L" = at tuned in).
11	GND	I	—	—	Not used.
12	RESET	I	L	—	Reset input.
13	XIN	I	—	—	Oscillation circuit (4MHz).
14	XOUT	I	—	—	Oscillation circuit (4MHz).
15	Vss	PW	—	—	GND
16	GND	I	—	—	GND
17	REM	I	L	—	Remote control signal input.
18	ST	I	L	—	Stereo signal input ("L" = at stereo).
19	RCK	I	Serial	—	RDS data (clock) input.
20	RDA	I	Serial	—	RDS data (data) input.
21	GND	I	—	—	Not used.
22	PCK	O	Serial	L	LM7001 control output for PLL-CK (CL).
23	PDA	O	Serial	L	LM7001 control output for PLL-DATA (DATA).
24	PSTB	O	H	L	LM7001 control output for PLL-STB (CE).
25	GND	O	—	L	GND
26	GND	O	—	L	GND
27	A/M	O	L	L	AUTO/MANUAL control.
28	GND	I	—	—	Not used.
29	P O/F	O	H	L	Power control output ("H" = ON).
30	VR-UP	O	H	L	Power volume control output (LB1639 ON = at "H").
31	VR-D	O	H	L	Power volume control output (LB1639 ON = at "H").
32	SP-R	O	H	L	Speaker relay control output (ON = at "H").
33	VDD	PW	—	—	+5V
34	GND	I	—	—	GND
35	GND	I	—	—	GND
36	1G	O	—	—	FL tube control output for 1G.
37	2G	O	—	—	FL tube control output for 2G.
38	3G	O	—	—	FL tube control output for 3G.
39	4G	O	—	—	FL tube control output for 4G.

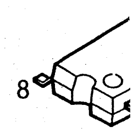
Pin No.	Symbol	I/O	Logic	Initial Setting	Function
40	5G	O	—	—	FL tube control output for 5G.
41	6G	O	—	—	FL Tube control output for 6G.
42	7G	O	—	—	FL Tube control output for 7G.
43	8G	O	—	—	FL Tube control output for 8G.
44	9G	O	—	—	FL Tube control output for 9G.
45	10G	O	—	—	FL Tube control output for 10G.
46	11G	O	—	—	FL Tube control output for 11G.
47	12G	O	—	—	FL Tube control output for 12G.
48	13G	O	—	—	FL Tube control output for 13G.
49	14G	O	—	—	FL Tube control output for 14G.
50	S0 (a)	O	—	—	FL Tube control output for P(a).
51	S1 (b)	O	—	—	FL Tube control output for P(b).
52	S2 (c)	O	—	—	FL Tube control output for P(c).
53	S3 (d)	O	—	—	FL Tube control output for P(d).
54	S4 (e)	O	—	—	FL Tube control output for P(e).
55	S5 (f)	O	—	—	FL Tube control output for P(f).
56	S6 (g)	O	—	—	FL Tube control output for P(g).
57	S7 (h)	O	—	—	FL Tube control output for P(h).
58	S8 (j)	O	—	—	FL Tube control output for P(j).
59	S9 (k)	O	—	—	FL Tube control output for P(k).
60	S10 (m)	O	—	—	FL Tube control output for P(m).
61	S11 (n)	O	—	—	FL Tube control output for p(n).
62	S12 (p)	O	—	—	FL Tube control output for P(p).
63	S13 (q)	O	—	—	FL Tube control output for P(q).
64	S14 (r)	O	—	—	FL Tube control output for P(r).
65	S15 (s)	O	—	—	FL Tube control output for P(s).
66	Vkk	PW	—	—	−15V
67 ~ 70	GND	I	—	—	GND
71	VA	O	L	H	Video In/Out control ("L" = at selection) BV4066.
72	VB	O	L	H	Video In/Out control ("L" = at selection) BV4066.
73	K1	I	—	—	Key input (A/D conversion input).
74	K2	I	—	—	Key input (A/D conversion input).
75	K3	I	—	—	Key input (A/D conversion input).
76	K4	I	—	—	Key input (A/D conversion input).
77	VER	I	—	—	Forwarding country setting.
78	VER	I	—	—	Specification setting.
79	MUTE (T)	O	H	H	MUTE output ("H" = MUTE).
80	GND	I	—	—	GND

LA3401 (IC502)



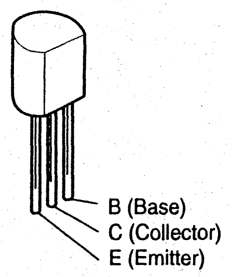


BA6208F

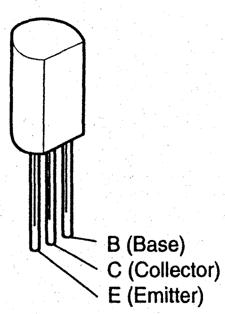


● TRANSISTORS

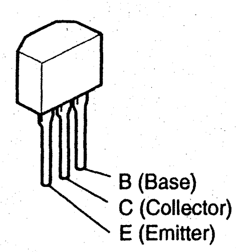
2SA988(E/F)
2SA1515(R)
2SC1815(Y)
2SC1841(E/F)



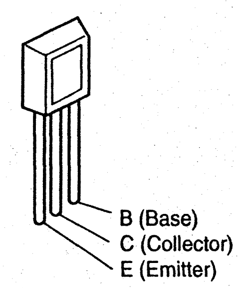
2SB647A(C)
2SB1041(R)
2SD667A(C)



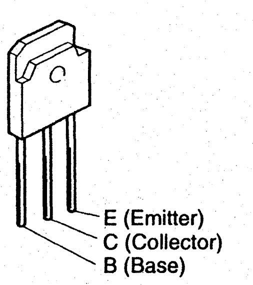
2SA933S(S)
2SA1038S(S/E)
2SC1740S(E)
2SC2389S(S/E)



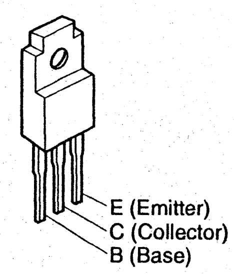
2SB1328(P)
2SD2004(P)



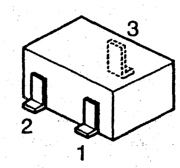
2SA1491 (O/P/Y) (TR323,324)
2SC3855 (O/P/Y) (TR321,322)



2SB1186A (D)
2SD1763A (D)



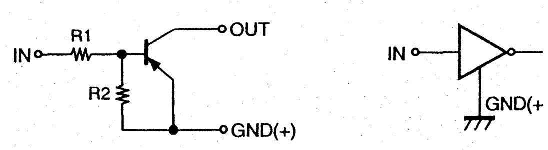
Digital Transistor (Built in Resistors)



1:GND/Emitter
2:In/Base
3:Out/Collector

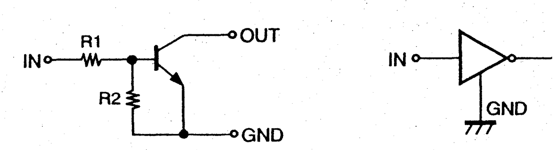
DTA114EK
DTB123EK
DTC114EK
DTC143EK
DTC144EK
(Chip)

DTA · DTBEK Series



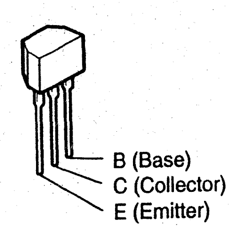
	R1	R2
DTA114EK	10kohm	10kohm
DTB123EK	2.2kohm	2.2kohm

DTCEK Series

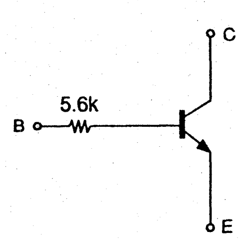


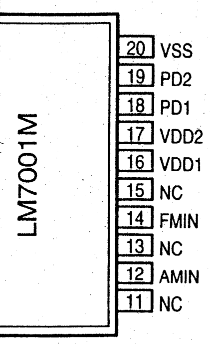
	R1	R2
DTC114EK	10kohm	10kohm
DTC143EK	4.7kohm	4.7kohm
DTC144EK	47kohm	47kohm

RN-1241(A/B)

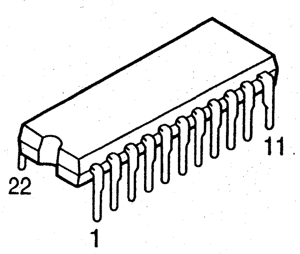


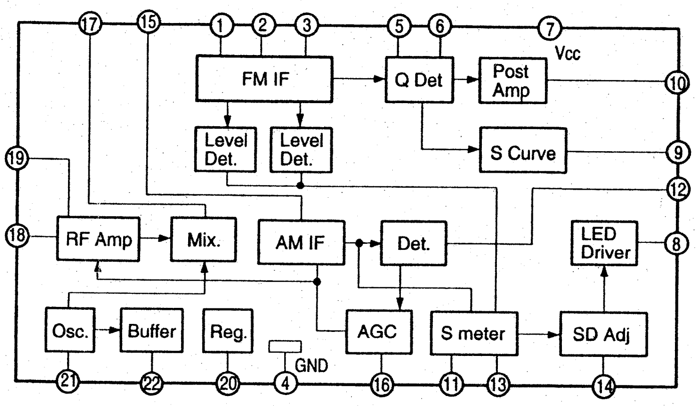
RN-1241



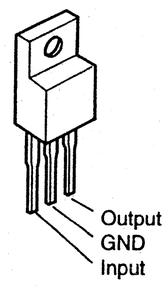


LA1265 (S)
(IC501)



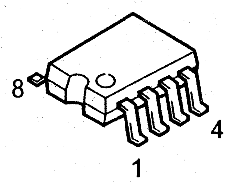


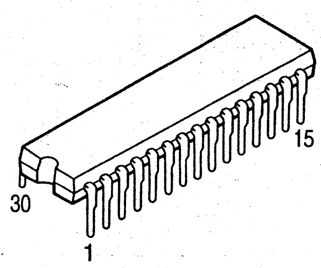
NJM78M12FA (IC504)
BA178M06 (IC401)

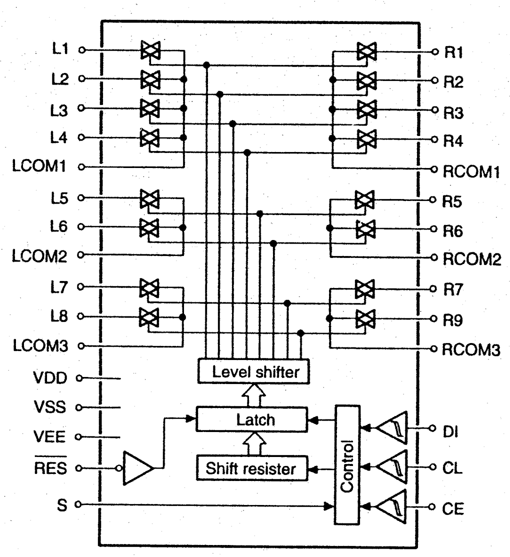


LC7821 (IC101)

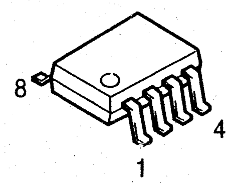
BA6208F (IC602)

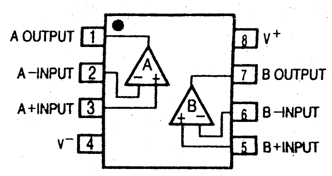


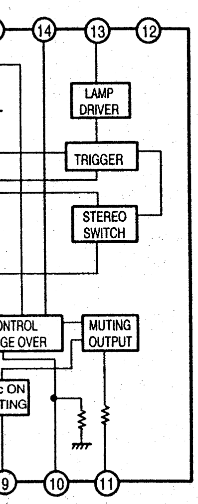




NJM2082MD (IC701)

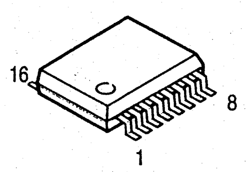


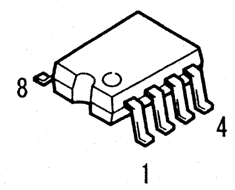


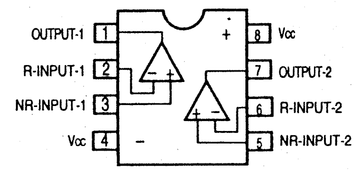


BA15218F (IC301)

SAA6579T (IC801)

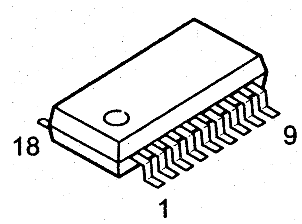


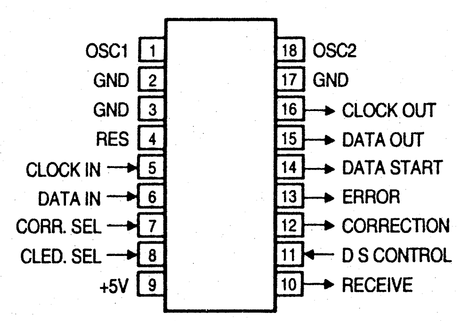




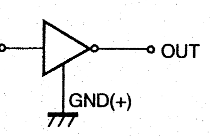
Pin No.	Symbol	Description
1	QUAL	Quality indication output.
2	RDDA	RDS data output.
3	V_{ref}	Reference voltage output (0.5 V_{DDA}).
4	MUX	Multiplex signal input.
5	V_{DDA}	+5 V supply voltage for analog part.
6	V_{SSA}	Ground for analog part (0 V).
7	CIN	Subcarrier input to comparator.
8	SCOUT	Subcarrier output of reconstruction filter.
9	TSTLD	Test control.
10	TEST	Test enable.
11	V_{SSD}	Ground for digital part (0 V).
12	V_{DDD}	+5 V supply voltage for digital part.
13	OSCI	Oscillator input.
14	OSCO	Oscillator output.
15	T57	57 kHz clock signal output.
16	RDCL	RDS clock output.

LC7074M (IC802)



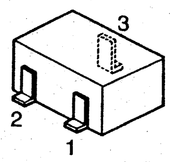


Series



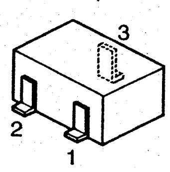
R2
10kohm
2.2kohm

2SK209 (Y/GR)

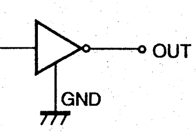


1: Drain
2: Source
3: Gate

2SA1037 (S/R)
2SC2412 (S)
2SC2413K (Q)
2SC2712 (Y/GR)
DTB123EK



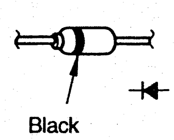
1: Emitter
2: Base
3: Collector



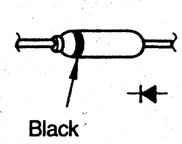
R2
10kohm
4.7kohm
47kohm

● DIODES (included LED)

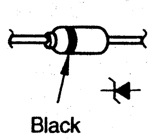
1SS252



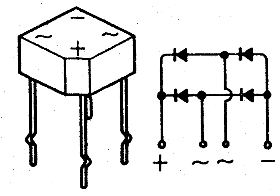
1S2471



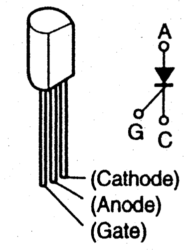
MTZJ3.3A MTZJ7.5C MTZJ6.2A MTZJ27D MTZJ6.8C



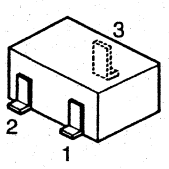
4D4B42



SF0R1A42

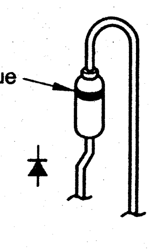


2SK211 (Y/RG)

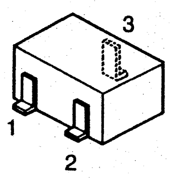


1: Gate
2: Drain
3: Source

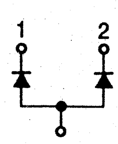
1SR35-200 (A)



DAP202K (Chip)

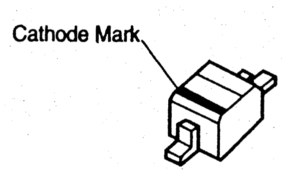


DAP202K

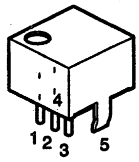


1: Cathode
2: Cathode
3: Anode

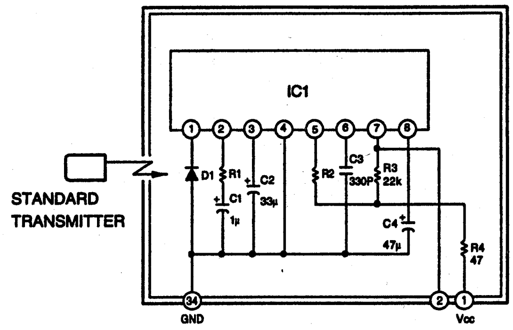
DTZ8.2B



SBX1610-52 (Remote Control Sensor)



1. Vcc
2. Output
3. GND
4. Case Fin
5. Case Fin



IC1 : CX20106A Chip
D1 : PIN Photodiode Chip
C1,C2,C4 : Aluminum Electrolytic Capacitor
C3 : SL Characteristic ±5%
R1 : Gain control resistor
R2 : fo control resistor (Using ±1%)
R (Other than above items)
: ±5%